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THE  
DUBLIN JOURNAL  
OF  
MEDICAL SCIENCE.

THE BOSTON  
SOCIETY FOR  
MEDICAL  
OBSERVATION

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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JULY 1, 1882.

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THE BOSTON  
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PART I.

ORIGINAL COMMUNICATIONS.

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ART. I.—*A Sketch of the Life and Work of the late Dr. Alfred Hudson, Physician to the Queen in Ireland.*<sup>a</sup> By JAMES LITTLE, M.D., Univ. Edin.

As this is the first occasion on which the Hudson Scholarship has been awarded, it seems fitting that some one should explain how this Scholarship has been created, and should, even in a brief and imperfect way, tell the students of this hospital something of the great physician whose name it bears. I willingly undertake this duty, believing, as I do, that you who are now starting on your professional careers may learn lessons of the utmost value from the story of his life and work.

Alfred Hudson was the son of a Congregational clergyman in Staffordshire. He began his medical education as the apprentice of a general practitioner in his native town, but his father does not appear to have been happy in the selection of a master for his son. He spent his time in a comfortless surgery, and was left, as far as his master was concerned, without any instruction in the practice of the profession he had adopted. In the same town, however,

<sup>a</sup> Circumstances prevented the appearance in this Journal of any notice of the late Dr. Hudson at the time of his death, and we, accordingly, gladly publish this sketch of his life and character. It formed part of an Address given by Dr. James Little, on the occasion of the first adjudication of the Hudson Scholarship. A short time before Dr. Hudson's death his brother, Mr. Henry Hudson, of Chester, munificently placed at Dr. Hudson's disposal the sum of one thousand pounds, to be applied as he thought right in the promotion of medical education in Dublin, and Dr. Hudson put it in trust to found a scholarship in connexion with the Adelaide Hospital.—Ed. D. J. of M. S.

was another practitioner of a superior stamp; he made the lad's acquaintance, and, as far as possible, helped him. He lent him books, and among them Sir Astley Cooper's "Treatise on Fractures and Dislocations." Ignorant though the lad must have been of anatomy, the descriptions of the great surgeon made a vivid impression upon his mind. Soon afterwards the master was called to an aged woman, a parish patient, who had hurt her shoulder; when he returned he directed his apprentice to prepare a bottle of liniment, and to carry it to the patient two miles away. The lad obeyed, but on reaching the house proceeded to examine the injured woman. He thought he recognised in the flattened shoulder and lengthened arm Sir Astley's signs of fracture of the neck of the scapula, and accordingly he made a bandage and put up the arm. In after years, and with added knowledge, he still remained of the opinion that his diagnosis had been correct. Considering how rare this injury is, it may reasonably be doubted whether such was the case, but the patient soon felt the relief afforded by the properly supported arm, and the young apprentice, returning to the surgery, placed the bottle of liniment on the table, informing his master that a broken shoulder-blade required a bandage—not a liniment. If the treatment received by the apprentice had been harsh before, it became cruel now. He appealed to his father to remove him, and to afford him the opportunity of pursuing his studies properly. He resolved, to use his own words, "that if he could not be a physician he would not be an apothecary." He left his master, and made his way to London, but he was a stranger there, and for three days he went out and in of the hotel at which he lodged without definite aim or object. There were, however, at the hotel some North country folk—"good people," to use Dr. Hudson's own expression—who got into conversation with the lad, and having heard his story, wrote to his father, and got a promise from the old man that he would supply funds to enable his son to pursue his studies as he wished. He had a boyish ambition—a childish fancy it was indeed, yet on it turned his whole future life—he would become a Fellow of the Royal College of Physicians of London. An indispensable qualification for that Fellowship in those days was the possession of a degree from Oxford, Cambridge, or Dublin. Being a Nonconformist, he was excluded from the degrees of both the English Universities, and had, therefore, no alternative but to seek his education in the University of Dublin.

He entered the University in the year 1830, and pursued simul-

taneously his course in arts and his medical studies. His love for his profession and his determination to study it thoroughly were strongly stimulated by the brilliancy and enthusiasm manifested in the teachings of Macartney, Graves, Stokes, and Crampton; and up to the end of his life he often quoted the philosophic observations of those great teachers. This was the period when the science of the physical examination of the chest and of the investigation of disease by the examination of the dead had received a new impulse from the French school. Fresh and unexpected light was being thrown on the nature and diagnosis of disease, and earnest students could not fail to catch the enthusiasm and hopefulness which a new discovery is sure to create. Before Dr. Hudson came to Dublin, however, and afterwards, he studied with attention the writings of the great observers of a previous period. He saw how much there was true to nature in the writings of the physicians who had lived and worked and watched disease before pathological examinations were so common, and before percussion and auscultation had lent their aid in diagnosis. He had verified what was true to nature in their writings, and never abandoned his confidence in the diagnostic and therapeutic wisdom of Cheyne, Armstrong, Fordyce, and Huxham. This same quality of mind, so valuable, and, I think, so rare—this power of retaining what is true in the experience of the past, while discarding the theories and fancies with which the facts have become interwoven—was displayed by Dr. Hudson throughout his long professional career. During the last fifteen years of his life there was probably no physician in Dublin who used more constantly the new drugs, and put more frequently in practice the therapeutic discoveries of the period in which we live. I myself remember he was the first physician with whom I came in contact who appeared to use widely, and for varied purposes, the bromides, the salicylates, and the sulphocarbolates; and yet he clung tenaciously to his faith in tartar emetic as the remedy for acute congestions of the kidney, in the power of mercury to control serous inflammations, and in the efficacy of issues and setons and blood-letting in certain conditions of disease.

After obtaining his degree Dr. Hudson, following the example of Stokes and Corrigan, spent a winter at the Edinburgh School, and then naturally turned his eyes to the rich and, at that time, splendidly prosperous land of his birth. He had friends through whose interest it seemed likely he might secure his appoint-

ment as Physician to the Birmingham General Hospital, and he had almost completed his arrangements to settle there, when Dr. Gilroy, of Navan, whose daughter Dr. Hudson was about to marry, sustained a paralytic seizure. It seemed certain that unless Dr. Hudson took up the practice, which was of great moment to his family, its value would be lost. Discarding what appeared to be a brilliant opening in England, Dr. Hudson went to Navan, and continued to carry on the practice there while Dr. Gilroy lived—a period of nineteen years. Soon after he settled there he had the good fortune to have the Navan Fever Hospital committed to his charge, and he thus had an opportunity of following out one of his favourite investigations—the study of fever. It soon became apparent to those who came in contact with Dr. Hudson that he really knew his business. He had acquired in the dead-house of the hospital a true conception of the anatomical changes which are present in disease, and had learned in the wards how to ascertain by a physical examination the existence of these changes during life, and, as a consequence, when he was brought to the bedside of the sick he was able to speak with a precision of which few practitioners were at that time capable as to the nature and probable course of the disease. The public soon came to repose confidence in him, and medical men even at some distance were not unwilling to profit by his aid in consultation. He did not altogether sever his connexion with Dublin, but was favourably known to his former teachers as the author of some original papers of merit and of occasional reviews which appeared in *The Dublin Journal of Medical Science*. It would seem that Dr. Hudson always looked forward to the occurrence of a vacancy in the surgeoncy of the County Infirmary at Navan, believing that he would obtain the appointment, and would thus secure a more commanding position as a consultant both in medical and surgical cases. The surgeoncy of the Infirmary at last became vacant, but he lost it by a single vote. I sometimes see a gentleman who takes to himself the credit of having made Dr. Hudson's fortune, as it was his vote which, given to Dr. Hudson's opponent, decided the election. About the same time Dr. Gilroy died, and feeling that on the one hand he had little hope of advancing his position in the county Meath beyond that to which he had already attained, and on the other that his aged relative was no longer alive to suffer by his failure if he did not succeed in Dublin, he took, as I believe, rather hurriedly the determination to leave Navan, and seek for practice

in the capital. He sent Mrs. Hudson to town to ascertain whether any suitable residence could be obtained, and she brought back an advantageous offer from the late Dr. Collins, the obstetrician, who was about to retire from practice, to transfer to him his house in Merrion-square.

There was a good deal of courage displayed by Dr. Hudson in moving to Dublin. He had not saved money; it was necessary that he should begin at once to make at least a moderate income or he could not live. He had lost the opportunity of gliding into, and was indeed, I believe, unfitted for any of those tutorial occupations by which the younger members of the profession in most cases support themselves. The family practice in the city was at that time, even to a much greater extent than at present, in the hands of the general practitioners, and when a physician was to be consulted the public had men of acknowledged position among whom they might choose. Graves indeed was dead, but Marsh, Corrigan, and Stokes were in the zenith of their fame. Mayne was only kept back by his own modesty from the commanding position to which his varied attainments and untiring hospital investigations entitled him, and those physicians whom at the present time we regard as the acknowledged leaders of the profession were all favourably known, and had made considerable way in practice. "Here," said Sir William Wilde to a friend, "is Hudson come to Dublin to starve." I believe there was only one man—a former solicitor in this city, who had kept up a friendship with Dr. Hudson since their college days—who encouraged him to leave Navan.

For some years I am satisfied (though I was not in Dublin at the time) Dr. Hudson found it difficult, indeed I think not always possible, to make his income meet his necessary expenditure. He was tried by the temptations of difficulties and adversity as he was afterwards tried by the no less dangerous temptations of a commanding position, and in neither was he found wanting. The patience, the self-denial, the shunning of mean ways which marked his earlier struggles were equalled by the modesty, the kindliness, the respect for the feelings and reputation and welfare of others, and the freedom from jealousy which characterised his later years. I know that unkind speeches made of him at this time by an envious rival, and carefully repeated to him, did not prevent him, when he had far passed that rival in the race, putting handsome fees in his way.



Soon after his settlement in Dublin the scheme for the establishment of this hospital was started by the late Dr. Walsh, Dr. Duncan, Dr. Wharton, Mr. Morgan, and my present valued colleagues, Dr. Barton and Mr. Richardson. Dr. Hudson joined in the project, and his influence with some noble families whom he had attended in Meath had the effect of securing for the scheme valuable patronage and substantial aid. Dr. Duncan and he were the original physicians, and when I look round in the building in which we now work and compare it with the limited accommodation and the few facilities for clinical teaching which Hudson enjoyed, and when I think that, notwithstanding these disadvantages, and the still greater disadvantage that for twenty years he had been away from the schools, and that lecturing, in the ordinary sense of the term, was always to him an impossibility, and when I recollect the enthusiasm for work which he inspired in those who followed him round the old wards of the Adelaide Hospital, I cannot but feel that though we follow in his path, we do so with unequal steps.

After two or three years' work here a vacancy occurred in the Meath Hospital, and, as we cannot wonder, Dr. Hudson availed himself of the invitation to become the colleague of Dr. Stokes, his former teacher. There he sustained the reputation he had acquired here, until the absorbing engagements of private practice compelled him to resign his hospital appointment. During the earlier years of his Dublin career, Dr. Hudson probably had few patients, except old friends from Meath, who from time to time consulted him, and others who were committed to him by Dr. Stokes, who appears always to have stood his friend; but once he had the opportunity of showing in the wards of a clinical hospital his skill as a physician, his practice rapidly extended, until it became so large that he was daily obliged to decline the consultations which were offered to him. His published writings were few, and, although they were excellent, I do not believe they contributed materially to his reputation; even his lectures on Fever would not lead me to form the exalted opinion of his skill which was produced at the bedside by his consummate ability in prognosis, and his wonderful fertility of resource in treatment. I had not the opportunity of watching Dr. Hudson rise in popular esteem, for he was already in large consulting practice when I settled in this city; but having enjoyed what I must ever regard as one of the greatest advantages of my life—an unbroken friendship with

him during subsequent years, and now speaking to men to whom the lessons of such a life may be of unspeakable value, I will try and tell you what were the qualities of mind and character which led him, in spite of such difficulties, to achieve such success.

Dr. Hudson had not the advantages which are usually reckoned of most importance in determining the position of a professional man. He was past middle life when he entered on his career in Dublin; he had no powerful connexions or even friends; he was not the adopted of any religious, political, or social clique; he had no courtier ways; he made no display of success before he had attained it. Against the want of these elements of success he had, in the first place, a genuine love for his calling and a deep sense of its responsibilities, and this led him to bend his mind to every case which came before him with absorbing earnestness. Whether the ailment appeared a serious or a slight one, he proceeded to its investigation with concentrated attention. As a result of this he necessarily acquired, as years went on, such an extensive and accurate acquaintance with the various forms of disease and the various groups of symptoms met with among the sick, that, discarding immaterial points, he was able rapidly to seize those which were essential for diagnosis and treatment. Out of this concentrated attention to his work there also sprang a marvellously retentive memory. Late one evening I asked him to call on his way home, as an act of kindness, to see a doctor's widow, who was seriously ill in her lodgings in Lower Mount-street. There was nothing in the patient nor in the circumstances calculated to make much impression on the mind, but years after, when the case had almost passed from my recollection, Dr. Hudson, who had at the time a thousand patients for one whom I had, reminded me of the case, and drew my attention to the occurrence in another sufferer of a symptom which had proved of diagnostic value in the previous patient. He was a master of physical diagnosis; his eye, his touch, and his ear had come to detect signs so slight that they escaped less cultivated senses. Working at the bedside of the sick from the very beginning of his medical training, and gathering his impressions of disease as much from nature as from books, he displayed in obscure and doubtful cases a singular capacity for diagnosis. Where there was no distinct symptom or sign sufficient in itself to reveal the nature of the case, Dr. Hudson possessed what I may be allowed to term a judicial faculty. He saw in what direction the evidence chiefly tended, and although conclusions made on such premises

must, from the very necessity of the case, prove sometimes erroneous, his guesses were, as a rule, singularly correct. Springing likewise out of his genuine love for his profession and abiding sense of its responsibilities was his conspicuous fertility of resource in the treatment of disease. Whether the case were trivial or necessarily fatal, or apparently depending for its issue on decided and energetic treatment, Dr. Hudson always puzzled himself to offer every suggestion which might prove useful in cure or palliation. Along with this love of his calling, Dr. Hudson always appeared to me to possess a singularly correct sense of what was right and fitting in the varied and complicated relations of life. In his relations with his professional brethren, and in his dealings with his patients, he was sure to adopt the course which was likely, in the long run, to prove the best for all concerned. He never made gushing professions of friendship, but, unlike most men, his friendly acts passed far beyond his words. Where, as must from time to time happen in the life of a physician in great consulting practice, he has, if he is honest to his patient, to give advice which may reflect on the previous conduct of the case, Dr. Hudson never allowed the interest of the patient to suffer, but, at the same time, with surprising tact, protected the reputation of his less skilful brother. Looking below the surface, he esteemed men not according to the position they occupied, but according to the qualities they displayed, and having proper respect for himself, he gave to them the respect which they deserved. He had among his patients not a few of the highest rank, but equally incapable of the folly which worships rank and of the democratic envy which professes to despise it, he so bore himself towards them as to avoid, on the one hand, obsequious attention, and, on the other, the assumption of familiarity. It was not often that he afforded even to those who knew him well a glimpse of that inner life within the circle of which must lie the power that, to a great extent, regulates the outward conduct of every one of us, but it was marked by the same genuineness and reality which characterised his whole nature. Though he numbered among his most intimate and highly esteemed friends some who differed from him entirely in their religious opinions, his own convictions were distinct and firmly rooted; they did not need for their support that they should be displayed, and should meet with approval from others; they were kept alive and strengthened by being habitually employed in the regulation of his daily life; and we need not wonder, then, that they enabled

him to watch the approach of death with perfect peace and resignation. In this way—tolerant and lenient in his judgments of others, never seeking opportunities of drawing attention to or justifying his own conduct, but ever careful that it should be such as his conscience would approve—earnest, honest, skilful, kind, never wanting in self-respect, never wanting in respect for others, ever willing to communicate to others the priceless treasures of his own knowledge, ever anxious that others should share with him professional honours and rewards—the lad who had set before him, when he was the apprentice of a village surgeon, the Fellowship of the College of Physicians of London as the utmost object of his ambition, became in turn the colleague of a teacher, the President of the King and Queen's Colleges in Ireland, the Regius Professor of Physic in Dublin, Physician to the Queen, and her Majesty in the General Council of Medical Education.

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**ART. II.—*Reports on Operative Surgery.*** By HENRY GRAY CROLY, F.R.C.S.; Senior Surgeon, Teacher of Operative Surgery, and Visiting Clinical Surgeon to the City of Dublin Hospital; Consulting Surgeon to the Monkstown Hospital; Member of Council and late Member of the Court of Surgical Examiners, Royal College of Surgeons, &c.

THE following cases occurred recently in my hospital practice, and being of much interest I consider them worthy of being placed upon record:—

**CASE I.—*Right Femoral Hernia; Five Days' Strangulated Gut, deeply Congested; Omentum Gangrenous; Herniotomy, Recovery.***—E. H., married, aged forty-six years, residing at Harold's-cross, was admitted into the City of Dublin Hospital on the evening of the 4th of April last, under my care, on the recommendation of my former apprentice, Dr. Hearn, medical officer to the Rathmines Dispensary. The patient consulted Dr. Hearn for the first time on the day of her admission into the hospital; he at once recognised the very serious nature of the case, and recommended her immediate removal to the hospital.

***Previous History.***—The woman states that she suffered from the hernia for several years; never wore a truss. The tumour was reducible until the 31st March, on which day the hernia came down, and she was unable to put it back. She was seized with colicky pain, vomiting, and constipation. These symptoms continued, and when visited by Dr. Hearn he found the vomited matter stercoraceous.

*State on Admission into Hospital.*—Patient collapsed; eyes sunken; extremities cold; “hernial face” very marked; hiccough; pulse feeble; abdomen distended; tongue dry and brown; outline of intestines marked; temperature  $97.4^{\circ}$ . A femoral hernia about the size of a hen’s egg observed in right groin, oval in long axis of Poupart’s ligament, over which it has ascended, thus resembling an inguinal hernia; the integuments discoloured at each end of the tumour, thus resembling a bubo; the centre of tumour tense, painful, and red; vomiting continues.

Notwithstanding the forlorn-hope aspect of the case, I decided to give the patient the chance of operation; accordingly, she was placed under the influence of ether, and I proceeded to operate under the antiseptic spray. I adopted the single incision, commencing well above Poupart’s ligament, and extending down towards the saphenic opening. The structures were carefully divided, and the coverings being very thin I soon reached the tumour, which was dark coloured. The difficulty of recognising the sac was very great—in fact, it was by adopting the following plan that I was enabled to satisfy myself that the sac was still unopened. I drew down the hernia and divided Poupart’s and Hey’s ligaments, both of which were very tense, and having exposed the narrow portion of the intestine *above* the strangulated part, I opened the peritoneum and then *introduced the director downwards*; it entered the deeply congested tumour, and with a small scalpel I opened the sac (from *above downwards*) which cut almost like cartilage. A small quantity of very dark coloured fluid escaped. Two large portions of omentum (in shape like the auricular appendices of the heart), gangrenous in colour and odour, were thus exposed, and on reflecting these appendices a knuckle of deeply congested gut was seen. Each portion of the omentum was drawn down and ligatured with carbolised gut above the gangrenous portion which was cut off. The sac, very thick and discoloured, was also removed. Only one small vessel required a ligature. A sponge squeezed out of very hot carbolised lotion was applied, and the forefinger passed round the gut to ascertain that there was no internal constriction. The knuckle of gut was easily reduced and followed with the finger into the abdomen. A drainage tube having been introduced, the wound was closed and dressed in strict accordance with Listerism. *The pulse improved under the ether.*

*Treatment after Operation.*—Chicken jelly, brandy, lime-water and milk, hot flannels to abdomen, hot jars to feet and thighs, also to axillæ and arms, 1 gr. of ext. opii. aq. every hour. At 9.30 p.m. (about two hours after operation), pulse 112; temp.  $98^{\circ}$ ; *bowels were moved naturally*; passed urine.

April 5th (2nd day).—Temp.,  $96.4^{\circ}$ ; pulse, 108, feeble; skin cold; voice weak; slept very little; vomited several times; abdomen distended and tympanitic. Ordered iced champagne, half gr. morphia suppository; hypodermic of ether every third hour. The arms were enveloped in wadding and flannel rollers; urine drawn off.

*Evening Visit.*—Temp., 100·1°; pulse, 112; vomiting and tympanites less; voice stronger; heart's sounds improved; urine drawn off.

April 6th.—Temp., 100·4°; pulse, 112; slept well; took nourishment and stimulants.

*Evening Visit.*—Temp., 99·4°; pulse, 120; passed a good day; bowels moved naturally three times; evacuations partly solid; urine drawn off.

April 7th.—Temp., 101·8°; pulse, 110; patient slept well, taking nourishment, also brandy and champagne; bowels moved four times during night; house surgeon considered it necessary to administer starch and laudanum enema; drainage tube removed.

*Evening Visit.*—Temp., 100°; pulse, 92; had four motions during the day; anodyne enema repeated; turpentine fomentation and linseed poultice to abdomen.

April 8th.—Temp., 98·8°; pulse, 110; wound dressed; upper portion united.

*Evening Visit.*—Temp., 98·4°; pulse, 100.

From this day the patient made an excellent recovery, and left the hospital quite fat, with no hernial protrusion—the operation, in consequence of the removal of the sac, being followed by a radical cure.

The foregoing case is full of interest. Symptoms of strangulation of five days' duration, with stercoraceous vomiting, hiccough, and collapse, a gangrenous condition of omentum, and deeply-congested gut, brought the patient's life into imminent danger. The collapse was almost choleraic. Having operated nearly one hundred times for the relief of strangulated hernia at all ages, I have always remarked that every case of hernia presents some peculiar feature different from others, and this case was no exception. The shape of the tumour was very like an inguinal hernia. The resemblance in colour to a bubo on the eve of bursting was remarkable. The stricture was caused by Poupart's and Hey's ligaments, and the prolongation of Hey's ligament known in the Dublin School as Colles's fascia of femoral hernia. The difficulty of recognising the sac was greater than I ever experienced on any other occasion, and was doubtless due to its unusual thickness; and the plan which I adopted of drawing down the hernia and exposing a healthy portion of intestine to make sure of the sac was most satisfactory. The sac was the thickest I ever met, and I believe the intestine was thereby protected from pressure, and thus saved from gangrene.

The nail of the little finger of my right hand was inserted (almost at a right angle with the thigh) beneath the seat of stricture, and conducted Dupuytren's knife, which, cutting on its



convex edge, meets the stricture more readily than Sir A. Cooper's knife, which cuts on its concave edge. Though interference with the bowels after herniotomy is to be condemned, I have always observed that a natural movement following operation (sometimes on the operating table) is a favourable sign. The diarrhoea which occurred in this case depressed the patient, and was most likely caused indirectly by the opium. The collapse on the day after operation was very dangerous, but yielded to the prompt treatment adopted.

I have operated several times for femoral hernia in the *male* subject, and recollect in my first case that the question arose at the operating table—Was the case femoral or direct inguinal? *The position of the neck of the tumour, having Poupart's ligament above it and the pubic spine on the same horizontal level, and a little to the inside of it, at once settled the question.* In inguinal hernia the spine of the pubes is *behind and below* the tumour.

**CASE II.**—*Traumatic Stricture of Membranous Portion of Urethra of five years' duration; Retention of Urine; Bladder tapped above Pubes; subsequently Urethrotomy (Syme's Perineal Section); Perfect recovery.*—M. K., aged eighteen years, was admitted into the City of Dublin Hospital under my care, on May 28th last, recommended by Dr. Delahoyd, Medical Officer to No. 2 North City Dispensary.

*History.*—The patient states that he got a severe kick from a man (from behind) in the perinæum, five years ago. He bled from the urethra at the time, and suffered much pain. Ever since the stream of urine has been small, and he has been attacked with retention frequently. On his admission I explored the urethra with a wax bougie, and subsequently endeavoured to dilate the stricture by means of conical whalebone bougies, but no instrument could be passed. The patient was warned of the risks of his condition, and operative measures were suggested. He, however, decided on attending as an out-patient and taking his chance. He was attacked with retention almost immediately on leaving, and as no instrument could be introduced he again sought admission into my ward. As I was absent from town, the house surgeon, Dr. Pratt, aspirated the bladder above the pubes; very foetid ammoniacal urine was drawn off. The following morning I aspirated in the same region, and tied in the canula; and, having attached a long tube, the urine was allowed to pass into a chamber vessel under the bed. This prevented the necessity of repeated tappings. The stricture did not in the slightest degree yield when the bladder was tapped. Decoction of *triticum repens* with dilute nitric acid was prescribed. In a week following (the febrile disturbance which resulted from the retention having subsided) I again proposed to perform external urethrotomy, which the patient at once agreed to.



On the 16th of May the patient was placed on the operation table, ether was administered, and a Syme's staff introduced into the stricture with considerable difficulty. The patient was then tied up as for lithotomy. The staff was held steadily by an assistant. A lithotomy scalpel was introduced half an inch in front of the anus (the back of the knife being directed towards the rectum), cutting forwards and deeply in the mesial line. The knife immediately entered the fine groove in the staff, and the urethra from *behind* the stricture was freely divided. The staff was then withdrawn, and a No. 7 silver catheter introduced into the bladder, and retained by tying the rings to the hair above the pubes. I may here mention that I have for many years adopted a very simple method of retaining a catheter in the bladder. I place an indiarubber ring on the penis behind the glans, fitting moderately tight. I secure the catheter (gum-elastic or silver) by threads tied or stitched on to the ring, and fastened to the catheter.

17th.—Pills containing quinine and watery extract of opium were prescribed. Morning pulse, 144; temperature, 101·8°.

18th.—Temperature, 102·2°; pulse, 132.

19th.—Temperature, 98°; pulse, 72.

From this date the pulse and temperature were normal, the catheter was removed occasionally, and a larger size introduced. The patient was in a few days discharged, the wound in the perinæum being perfectly healed, and the stream of urine at full size.

The result of this case was very satisfactory, cicatricial strictures being most difficult and troublesome to deal with. Before the operation no instrument could be passed into the bladder, even under the influence of anæsthetics; and the stricture did not yield when the bladder was tapped, contrary to what occurs in other forms of stricture. The aspirator acted admirably. I adopted Syme's operation as being the most suitable in this case, and was fortunate in not experiencing any difficulty in passing the silver catheter at once into the bladder.

**CASE III.**—*Ligature of Lingual Arteries as a preliminary in Removal of Tongue for Cancer; Disease removed by means of the Benzoline Cautery without hæmorrhage.*—J. R., aged fifty years, was admitted into the hospital in November last, suffering from epithelioma of the anterior half of the tongue. He is an inveterate smoker and hard drinker; suffers severe pain; the ptyalism is profuse. The patient states that the disease is of but three months' duration; no history of cancer, so far as he knows, in his family; no glandular contamination.

The patient was etherised by the house surgeon, and I proceeded to ligature the lingual artery on the right side as follows:—

A semilunar incision was made, commencing at the symphysis menti, extending as low as the os hyoides, and terminating at the angle of the lower jaw. On raising the structures thus divided, the sub-maxillary gland was exposed and raised upwards; the digastric bellies with hypo-glossal nerve forming the boundaries of a triangle in which the artery lies. The ninth nerve and accompanying vein were drawn upwards, the edge of the hyo-glossus muscle was exposed, and portion of the fibres divided on a director. The artery was tied by a new ligature—viz., the middle coat of the aorta of the ox, recommended by Mr. Barwell, of Charing Cross Hospital, who kindly gave me some of his ligatures. I next tied the artery on the left side by a similar operation. The incisions thus made were then utilised for the purpose of drawing out the tongue, as in Regnoli's operation. The tongue was removed, as it projected beneath the chin, by means of the benzoline cautery. There was no hæmorrhage. A stout ligature was passed through the root of the tongue and fastened to the cheek. The gustatory nerves were also divided by Moore's method. The incisions on the neck were dressed antiseptically (a drainage tube being inserted at each side), and healed rapidly. An abscess subsequently formed at the right side, and was opened.

**CASE IV.**—*Epithelioma of Tongue removed by Operation as in Case III.*—D. M., aged sixty-six years, was admitted into the hospital the same month, and lay in the next bed to the preceding case, suffering from epithelioma of the right half of the tongue. The patient states that the disease commenced about six months previously. There is no glandular contamination; he suffers acute pain; ptyalism profuse. Patient etherised. Lingual artery ligatured at right side by the same operation as Case III., and the gustatory nerve divided also.

Cancer of the tongue, however removed, is, according to my experience, almost certain to return—in many cases very rapidly—even where not a trace of glandular enlargement exists, and my cases were, unfortunately, no exception. I have observed that an infiltrated condition of the mucous membrane at the floor of the mouth is a sure forerunner of a return. The ptyalism is sometimes relieved by division of the gustatory nerve. I was induced to adopt the plan of preliminary ligaturing of the lingual arteries in consequence of the hæmorrhage which occurred in a case in which I removed the right half of the tongue by means of the benzoline cautery, the hæmorrhage having taken place at the time of operation and also from sloughing some days after operation. This cautery cuts out the diseased mass as a knife cuts cheese, and is a very good method of operating. In Case III. the lingual arteries were very deep; in Case IV. the operation was not so difficult.

I am not aware that the procedure of first tying the lingual artery before extirpation of the tongue has been adopted by any other surgeon.

*CASE V.—Ununited Fracture of Right Radius—Fractured ends resected under spray—Bone joined by carbolised suture—Immediate union of wound and rapid consolidation of fracture—Perfect recovery of use of Arm.—*

Thomas G., aged twenty-five years, while working in Messrs. Goodbody's factory at Clara, King's County, through some carelessness on his part had his hand drawn into the machinery. He was carried round, and would have been crushed to atoms but for the promptitude of the foreman, who drew the band off the wheel, and thus stopped the machinery. The man was conveyed at once to the King's County Infirmary, where he was promptly seen by my friend, Dr. Ridley, the surgeon to the Infirmary, who found on examination that he had sustained a fracture of the upper third of the right humerus, dislocation of both bones backwards at the elbow-joint, and fracture of the radius and ulna, all on same side. Dr. Ridley reduced the luxation and set the fractures. All did well except the radius, which, notwithstanding the utmost care, remained ununited. Dr. Ridley kindly recommended the case to me, and on our consultation we agreed that operative measures were necessary, as it was evident that a portion of torn muscle separated the fragments and prevented union.

Ether having been administered, I "Esmarched" the *upper* arm (the limb having been previously elevated to favour the return of the blood) by a few turns of the elastic bandage. *No indiarubber tubing was used*, for the pressure of the tube on the brachial plexus often causes a temporary paralysis, and I also find the other method prevents any hæmorrhage at the time of operation, and is not so likely to be followed by subsequent bleeding.

The antiseptic spray having been applied, I cut down on the fracture, and found, as I anticipated, that a portion of muscle separated the fragments. This was carefully dissected away, and the ends of the bone exposed. They were found to be smooth, and covered by a dense membrane. The line of fracture was oblique. With a fine metacarpal saw I removed a thin piece off each end of the bone, and made a splice like the joining of a fishing-rod. By means of a drill-pin I made a hole in each end of the bone, and with a stout piece of carbolised gut lashed the fragments together. A fine drainage-tube was inserted into the wound, which was closed and dressed according to Lister's method, and a suitable splint applied.

The wound healed rapidly, and the fracture was very soon perfectly consolidated. Dr. Ridley writes to say :—"G. has the perfect use of his arm, and is daily at his work."

This was a most interesting case. There was total want of union from a local cause, which could not have been avoided—a piece of muscle inserted between the fragments of the bone prevented their union. The Esmarch's bandage enabled me to cut down and explore the fracture, remove the piece of muscle, saw off the ends of the bone—drill, ligature, and adjust, without seeing blood. I converted the *simple* into a *compound* fracture, and (thanks to antiseptic surgery) I as rapidly changed the *compound* into a *simple* fracture. There was no fever, no rise of temperature, and in a very short time perfect consolidation of the fracture occurred, giving a useful forearm with its motions unimpaired.

ART. III.—*On Two Cases of Abscess of the Antrum.*\* By WM. THOMSON, M.A., F.R.C.S.; Surgeon to the Richmond Hospital, Dublin; Member of the Surgical Court of Examiners, Royal College of Surgeons, Ireland; one of the Hon. Secretaries of the Surgical Society of Ireland, &c.

I BEGIN this communication by stating that the title which I have set to it is one about which there may be difference of opinion. I have followed the custom of many good surgeons and reliable authorities in speaking of collections of purulent matter in the antrum as abscesses; but there are others who would condemn this nomenclature as loose and misleading. Thomas Bell points out that we should apply the term abscess only to collections of pus in the areolar tissue, and that these very rarely occur in the submucous structure of the antrum. This would exclude cases in which the pus, forming at some carious point in the neighbourhood of the antrum, makes its way into that cavity, and there collects. If we take the stricter definition, there appear to be only two cases recorded which will satisfy it—one reported by Mr. Bell himself, and one by Bordenave. In both the abscess was in the upper part of the antrum, immediately under the orbit. But I shall adhere in the present instance to the habit which is more prevalent, and apply the term to a collection of pus in the antrum, whatever the source.

CASE I.—A girl, aged nineteen, was admitted to the Richmond Hospital in the early part of 1880, suffering from a fistulous opening in the

\* Read before the Dublin Biological Club.

site of the lachrymal sac on the right side. There was a pale swelling of the cheek also, but this was firm and unyielding. She had fair hair, was pale and pasty-looking, and badly nourished. She said that the diseased condition began about seven months before. She first had a dryness and stiffness in the right nostril, and then a "watery" state of the right eye, which was attended by copious overflow of tears along the cheek. Then there followed a swelling over the lachrymal sac, rupture of an abscess, and the fistulous opening which had since remained. The swelling of the cheek had appeared more recently—slowly, and without pain; but she had suffered much for some time from toothache and headache. These had now subsided. Examining the mouth I found that the first and second molars on the right side were mere stumps, and that near one there was a small opening which discharged pus. There was no fulness or tenderness about the hard palate, which appeared to be quite normal. From the right nostril there was a discharge of very offensive pus—the quantity not varying in any position of the head; and when this was syringed away a number of small polypoid-looking growths with granular surfaces were exposed. Pus could be squeezed out of the external opening near the inner canthus, and a probe put into it passed downwards until it appeared in the opening which I have mentioned as existing near the diseased teeth. The probe could not be moved about. It appeared to be confined entirely to a narrow track, and at no time gave the sensation of being in a cavity like the antrum. With the history of the case before me, I thought it right to hand the patient over in the first place to Dr. Fitzgerald, then our Ophthalmic Surgeon, and he kept her under treatment for some time, but she was returned to me uncured. I had more than one consultation with my colleagues, and we came to the conclusion that, although by our examination along the track of the sinus we could not reach any exposed bone, there was some necrosis of part of the upper maxilla, with a collection of pus in the antrum, and that it would be best to cut down upon the part. I spent some time in feeding the patient into proper condition, and then operated, the state of things meanwhile having undergone no perceptible change. I made an incision from the external opening near the lachrymal sac down along the nose, round by the nostril and through the lip, so as to lay all bare. The knife, applied with a little force, passed through the anterior wall of the antrum in the line of the incision, and I was able to turn this structure back in the flap, exposing a mass of material, putty-like in appearance and consistence, occupying the cavity. The smell was pestilential. I scooped out the stuff in great quantity, and putting in my finger I found that I could pass it through a large opening in the inner wall of the antrum into the right nostril and bring it out at the anterior naris. The whole of the roof of the nose on this side, as far as my finger could reach, was filled with the

same foetid material. But in exploring the roof I found that my finger passed easily through the septum into the left side of the nose, and that I could pass it down to the left nostril.

Finding that we had to deal with an antrum filled with inspissated pus, I removed a small portion of the alveolus on the same side, corresponding to the roots of the diseased molars, so that there might be free drainage. The cavity was carefully washed out, the edge of the fistulous opening scraped, and the edges of the wound were brought together. Subsequently the antrum was syringed out daily several times. On the sixth day the patient was quite well, the wound had healed almost without a scar—especially in the lip—and she left hospital in a few weeks in a greatly improved state of health, with only the slight deforming of the pucker where the opening near the eye had closed up.

CASE II.—The second case came to me during the summer vacation of 1880, and was in many respects similar to that which I have just narrated. She was a countrywoman aged twenty-seven, whose first trouble was overflow of tears on the right side, then formation and bursting of an abscess near the lachrymal sac, and persistence of a fistula. She had no swelling of the face, no deformity about the hard palate, no tenderness over the antrum, but she had a somewhat carious tooth—the second right molar. There was no history of any particular annoyance with this tooth; all her symptoms were directed to the abscess of the lachrymal sac. Dr. Fitzgerald had treated her for some time at the National Eye and Ear Infirmary, where the inferior canal had been slit up, and then she came to the Richmond for admission. I had before me the history of my previous case, resembling this in so many particulars. There was most foetid discharge from the nostril on the right side, and several rather large polypoid-looking growths almost filled it up. A probe introduced into the external opening only passed about half an inch downwards and inwards, and then came upon a portion of bone quite denuded of periosteum. I determined to enlarge the opening, and examine the parts. This I accordingly did by a short incision downwards along the side of the nose. My finger at once passed into the antrum, and here again I found the same filthy concretion that was present in the previous case. I cleared out all that was there by means of a scoop; and then turning my attention to the inner wall, I found a large opening into the right side of the nose, through which I could pass my forefinger with ease. The roof of the nose was filled with the putty-like substance, and it was pulled down by my finger and extruded through the right nostril. The septum in this case was not perforated. The bare piece of bone, which was small, was found on the margin of the opening into the nostril, and was removed. The diseased tooth was extracted; but there was no opening into the antrum, and I therefore



forced a director through, gradually enlarging the opening, so as to leave space for effective washing out.

The polypoid growths, as in the previous case, disappeared, and were evidently simply dropsical conditions of the mucous membrane, relieved by the removal of the condition which evidently produced them. The woman recovered in a few days, and left the hospital.

The cases are so much alike in the history and the appearances they presented that they may be discussed together. What was the first step in the series which led up to the group of signs and symptoms which presented themselves to us? The most common cause is to be found in carious teeth, alveolar abscess, injuries, extension of inflammation from the nasal fossæ to the lining membrane, with subsequent closure of the natural opening which exists between the middle meatus and the cavity of the antrum. There was no history of any injury, and the origin of the mischief was either in the carious teeth setting up alveolar abscess, or in spreading of the inflammation from the nose. I believe that in both cases—certainly in the first—the carious teeth were at fault, and that from these the irritation arose which ended in the abscess.

But the existence of traces of an old lachrymal abscess, with the history which directed attention so much to that part, was calculated to mislead. It was perfectly possible that this was the first cause; and the details furnished all the elements necessary to a diagnosis of inflammation of the lachrymal sac. I have looked into the reported cases of this affection of the antrum, and I find only three in which a sinus formed near this situation. The first is published by Mr. Spencer Watson in the *British Medical Journal* of July, 1868. A fish-hawker, aged thirty-one, applied at hospital with a sinus and ragged ulcer situated near the lachrymal sac of the right side, but a little external to it. He said he had for some time suffered from a watery eye, and that about Christmas last a swelling had formed in the region now occupied by the ulcer, which was opened two or three months ago by a surgeon, and proved to be an abscess. This sinus was probed on several occasions, and about a month ago a small piece of very thin bone of about half the size of the thumb nail escaped from it. At or about this time a foetid discharge commenced from the right nostril, and this had continued ever since.

In a paper contributed by Bordenave, and published in the *Mémoires de l'Académie Royale de Chirurgie*, Vol. XII., he narrates



two cases in which the abscesses had opened "near the orbit," although he does not specify the situation more particularly. The point at which the opening takes place is variable—at the canine fossa, near the diseased tooth, if that be the cause; at the tuberosity of the superior maxilla; and, in the experience of Garretson, Professor of Oral Surgery in the University of Pennsylvania, "by far the most common point at which the matter seeks egress" is the hard palate. As I have said, in these cases there was not any tumefaction or tenderness about the palate; no "dull, heavy pain extending along the alveolar border; no soreness in the sound teeth; no dull and constant pain extending from the maxillary sinus to the orbit" (Harris). Here the appearances presented were those of ordinary lachrymal fistulæ; and the patients, closely questioned, always referred their first troubles to irritation about the lachrymal sac. In this sense, then, the cases are interesting as showing a source of error in dealing with affections of the lachrymal apparatus. There is nothing certainly to contraindicate the correctness of this history. We know that among the causes of antral abscess is closure of its nasal aperture, by inflammation of the mucous membrane there spreading from the general nasal surface. It is quite possible, then, that the lachrymal sac and nasal duct may have been the source from which the irritation spread, and that this, involving the lining membrane by simple continuity, the small opening which exists between the antral cavity and the nose was shut up.

The diagnosis of antral abscesses is not always as simple as it might appear. Boger relates a case in which that disease was mistaken by himself, in consultation with Sabatier, Pelletan, and Dubois, for a fungus tumour; and Dr. Henry Smith publishes, in the *British Med. Journal*, March 2, 1867, details of a case in which an abscess was diagnosed as a malignant tumour of the antrum.

Fluid pus is usually found in abscesses in this part; indeed there is only one instance mentioned by Dr. Spencer Watson in which it was otherwise. The case was one of those which I have already referred to as having a fistula near the lachrymal sac. The patient was syringing out the antrum when he suddenly felt something in his throat and the posterior nares, which he managed to cough up. The material consisted of four or five lumps of soft pulpy material, varying in size from that of a cobnut to that of a large walnut, and having the most abominably stinking odour. The

condition is probably the result of mere filtering away of the more fluid elements, and the solidification of the heavier parts which remain.

The presence of pus in the roof of the nose and the perforation of the septum in the first case are remarkable. They probably indicate a very extensive inflammation of the parts originally, and consequent destruction of part of the septum in a very strumous subject.

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**ART. IV.**—*Medical Report of the Fever Hospital and House of Recovery, Cork-street, Dublin, for the year ending 31st March, 1882.* By JOHN WILLIAM MOORE, M.D., M.Ch., Univ. Dub.; Vice-President, Fellow, and Censor of the King and Queen's College of Physicians in Ireland; Physician to the Hospital, and to the Meath Hospital and County Dublin Infirmary; Lecturer on Practice of Medicine in the Carmichael College of Medicine, Dublin; Diplomat in State Medicine, and ex-Scholar of Trinity College, Dublin.

IN the ordinary course of events the duty of writing the Medical Report of the Hospital for the past year should have devolved upon my colleague; for, in accordance with an unwritten rule, the two physicians of the Hospital are responsible for the Report in alternate years. But towards the close of last December an event occurred which was pathetic in its sadness, and which lost to this institution the services of an able, most learned, and most conscientious physician. On the night of Wednesday, December 28, 1881, my friend and colleague, Dr. Reuben Joshua Harvey, died at his residence, 7 Upper Merrion-street, on the tenth day of petechial typhus.

At the beginning of December Dr. Harvey seemed to be in the enjoyment of perfect health; he attended a meeting of the Physiological Society in London on the evening of the 8th, and returned to Dublin on the 9th, travelling all night. On Saturday, the 10th, he visited the wards of this hospital, where there was very little typhus at the time. On the morning of the 11th, however, he examined a lad who had been admitted the previous evening, on the eighth day of typhus; and this patient he continued to attend daily, until his own illness had lasted at least twenty-four hours.

On December 19, Dr. Harvey did not feel well; next day he suffered from severe headache; on the 21st he examined as Censor at the King and Queen's College of Physicians; but on the 22nd he was too ill to leave his bed. Early on Friday, the 23rd, maculæ appeared, and ultimately there was a profuse rash, which very soon became petechial. Almost incessant wakefulness was among the first dangerous symptoms; but at a very early stage the heart became weak and its action rapid, and the respirations ran up to sixty in the minute without any pulmonary complication to account for this untoward symptom. The downward progress was swift, and the end came on the evening of the tenth day.

This is not the place to record the history of a life which, lasting as it did for only thirty-six years, was, nevertheless, one of unceasing effort in the advancement of science and the relief of suffering; but I may be permitted to quote these passages from a memoir penned by Dr. A. W. Foot, which was published in the *Dublin Journal of Medical Science*, for February, 1882:—

“Reuben Harvey was candid, straight, and honest; fearlessly unswerving from what he held to be a right course. When he had made up his mind a thing was right to be done, and could be done rightly, he was not to be turned from his purpose—there was no compromise to be made with him about it. That he was a useful man is shown by his having a seat on the Councils of the Medical Society of the College of Physicians, of the Pathological Society of Dublin, of the Biological Club, of the Dublin Branch of the British Medical Association, to which places of trust he was elected by men who knew well who and what he was. . . . Never had a career opened with a more ample promise; never did the buds of genius seem more firmly set. Dowered with the triple gifts of intellect, industry, and independence, Reuben Harvey seemed to be marked out as one of those illustrious few who are destined to occupy one of the thrones of science. Hence it was that when all that is of culture and light among his brethren stood round his open grave, on the closing day of the past year, it was difficult to repress something of the emotion of revolt at the fact of his removal—a removal which seemed so untimely and so weird a criticism on the theory of the survival of the fittest, for never did the enigma of their non-survival appear more insoluble.”

The tables, upon which the present Report is based, have been prepared by Dr. George Purcell Atkins, Resident Medical Officer, with his wonted ability and accuracy. I have much pleasure in acknowledging the assistance he has given me in the compilation of this Report.

TABLE I.—*Yearly Statement of Patients.*

Admitted from May 1, 1804, to March 31, 1882,	-	205,801
Discharged cured or relieved,	- - - 190,509	
Died,	- - - - - 15,267	
	<hr/>	205,776
Remaining in hospital, March 31, 1882,	- - -	25
In hospital, March 31, 1881,	- - - 43	
Admitted, 1881-82,	- - - 471	
	<hr/>	514
Discharged cured or relieved,	- - - 441	
Died,	- - - 48	
	<hr/>	489
Remaining in hospital, March 31, 1882,	- - -	25

As Table I. shows, the admissions to the hospital during the year were 471—a number which fell far short of the admissions in any one of the preceding five years. This will be seen from a statement of the actual number of patients admitted each year, viz :—

1876-77,	- THE BOSTON	- 666
1877-78,	- SOCIETY FOR	- 936
1878-79,	- MEDICAL	- 2,151
1879-80,	- OBSERVATION	- 1,083
1880-81,	-	- 1,250
1881-82,	- - - - -	- 471

During the six years included in the foregoing statement of admissions, four epidemics visited Dublin—smallpox between 1877 and 1881, scarlet fever in 1879 and 1880, typhus in 1880 and 1881, and measles in the autumn and winter of 1881. The last-named epidemic had no appreciable influence on the admissions, for only 57 patients suffering from measles were treated in the wards up to March 31, 1882—the end of the hospital year. To this subject I shall presently have to return. The epidemics of both smallpox and typhus, on the contrary, influenced the number of admissions in a very marked degree, and so did the epidemic of scarlet fever to a less extent—the admissions of cases of this disease being 71 in 1878-79; 98 in 1879-80; and 129 in 1880-81. In 1876-77, the smallpox cases were 29; in 1877-78, 253; in 1878-79, 1,509; in 1879-80, 600; in 1880-81, 411; and in 1881-82, only 1. The typhus cases were 100 in 1876-77, 134 in 1877-78,

142 in 1878-79, 94 in 1879-80, 420 in 1880-81, and 198 in 1881-82. From these figures it will be seen that the admissions in the three years 1877-80 were augmented by the epidemic of smallpox, and that in the year 1880-81 smallpox and typhus each contributed one-third of the cases which were treated in the hospital.

**TABLE II.**—*Showing the Monthly Statement of Patients from April 1, 1881, to March 31, 1882.*

Years	Months	Admitted	Daily Average No. of Patients in Hospital
1881	April, - -	46	37·23
	May, - -	55	29·20
	June, - -	31	24·46
	July, - -	54	28·45
	August, - -	38	24·67
	September, - -	52	35·69
	October, - -	36	37·00
	November, - -	27	29·20
	December, - -	24	20·23
1882	January, - -	46	24·77
	February, - -	29	24·10
	March, - -	33	23·67
	<b>Total and Average,</b>	<b>471</b>	<b>28·21</b>

Table II. sets forth the total admissions month by month during the hospital year, and the daily average number of patients under treatment each month. The admissions were most numerous in May (55), July (54), and September (52); least numerous in December (24), November (27), and February (29). This result is almost exactly the reverse of what might have been expected, for infectious diseases are usually most prevalent in the winter months, when the indigent population of a large town is pent up in badly ventilated rooms, through which infection runs like wild-fire. But the exceptional mildness of the winter of 1881-82 at once explains the apparent anomaly, and proves the proposition I have just advanced.

The daily average number of patients in hospital ranged from 37·23 in April, and 37·00 in October, to 20·23 in December, and 23·67 in March. For the whole year the daily average was only 28·21, compared with 84·48 in the previous year, 69·28 in 1879-80, and 114·67 in 1878-79.

## LOCALITIES.

An analysis of the various streets in the city from which the cases came shows that 89 streets furnished 1 case each, 33 streets 2 cases each, 9 streets 3 cases each, 6 streets 4 cases each, 7 streets 5 cases each, 8 streets 6 cases each, 1 street 7 cases, 1 street 8 cases, 1 street 9 cases, 2 streets 11 cases each, 1 street 15 cases, 1 street 18 cases, 1 street 19 cases.

The suburban districts furnished the following cases:—Artane 1, Ballsbridge 9, Blackrock 2, Dundrum 1, Harold's-cross 2, Irish-town 2, Inchicore 2, Kilmainham 2, Kimmage 1, Merrion 1, Naas 1, Rathmines 7, Ringsend 10.

Public institutions furnished cases as follows:—Cork-street Hospital 6, Coombe Boys' Home 1, Elliott Home 5, Jervis-street Hospital 2, Mercer's Hospital 3, Mountjoy-street Orphanage 5, North Dublin Union 1, Night Refuge 5, Dr. Steevens' Hospital 3, Westmoreland Lock Hospital 6.

From one house in South King-street no less than nine patients were admitted.

The number of patients admitted suffering from the chief epidemic diseases, and the mortality of the cases treated to a termination, are included in Table III. During the year, 427 patients were treated who undoubtedly laboured under some form of epidemic disease, 32 patients were admitted and treated although their ailments were not so suitable for a fever hospital, and in 12 cases careful examination failed to detect any absolute disease.

In most of the doubtful cases the observation wards were temporarily occupied by the patients, and proved to be invaluable as a means of preventing exposure to, and the spread of, infection. One signal instance of the utility of these temporary wards is worth recording. On February 4, 1882, I saw in the extern department of the Meath Hospital a young woman who seemed to be suffering from typhus fever, of which disease all the early symptoms were present. Not being able to make room for her there, I asked Dr. Atkins to send the Cork-street Hospital cab for her, and—although I thought her illness was typhus—to admit her for one day to one of our observation wards, so that I might have an opportunity of more carefully examining her before she should be finally placed in the typhus ward. Next morning, on visiting her in the observation ward, I found that she was really labouring under inflammation of the lungs, and she made a speedy and

complete recovery in a few days without running any risk from exposure to the contagion of typhus.

**TABLE III.**—*Showing the Number of Admissions of the Principal Diseases, and the Mortality of the Cases treated to a termination, for the year ending March 31, 1882.*

	Typhus Fever	Enteric Fever	Simple Fever	Intermittent Fever	Smallpox	Scarlatina	Measles	Pneumonia	Erysipelas	Meningitis	Rheumatism	Varicella
1881 April, -	26	2	5	—	1	—	—	5	—	—	2	—
May, -	32	—	5	—	—	3	1	6	—	1	2	2
June, -	18	—	3	—	—	2	—	2	—	—	—	4
July, -	16	4	8	—	—	6	3	8	1	1	2	—
August, -	22	—	5	1	—	1	2	7	—	—	—	—
September, -	26	2	7	1	—	4	4	2	1	—	—	—
October, -	22	1	3	—	—	4	3	1	1	—	—	—
November, -	4	4	2	—	—	3	5	4	1	—	1	—
December, -	4	1	4	—	—	2	7	1	—	—	1	—
1882 January, -	13	1	2	—	—	—	18	2	—	1	1	—
February, -	4	2	4	—	—	—	9	5	—	—	1	—
March, -	11	3	2	—	—	2	5	4	1	—	1	—
<b>Total, 1881-82, -</b>	<b>198</b>	<b>20</b>	<b>50</b>	<b>2</b>	<b>1</b>	<b>27</b>	<b>57</b>	<b>47</b>	<b>5</b>	<b>3</b>	<b>11</b>	<b>6</b>
<b>Total, 1880-81, -</b>	<b>420</b>	<b>47</b>	<b>103</b>	<b>1</b>	<b>411</b>	<b>129</b>	<b>32</b>	<b>31</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>—</b>
<b>Increase this year, -</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1</b>	<b>—</b>	<b>—</b>	<b>25</b>	<b>16</b>	<b>3</b>	<b>—</b>	<b>6</b>	<b>6</b>
<b>Decrease this year, -</b>	<b>222</b>	<b>27</b>	<b>53</b>	<b>—</b>	<b>410</b>	<b>102</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Died, - -</b>	<b>21</b>	<b>3</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>—</b>	<b>3</b>	<b>—</b>	<b>—</b>
<b>Mortality per cent.</b>	<b>10·6</b>	<b>15·0</b>	<b>—</b>	<b>—</b>	<b>200·0</b>	<b>18·5</b>	<b>6·0</b>	<b>6·4</b>	<b>—</b>	<b>100·0</b>	<b>—</b>	<b>—</b>

Cynanche, 6 ; bronchitis, 4 ; alcoholism, 3 ; Bright's disease (nephritis), 2 ; colic, pleurisy, cerebral abscess, sciatica, brain disease, stomatitis, hydrocele, constipation, premature birth, aneurism, puerperal mania, puerperal fever, congestion of lung, tonsillitis, phlegmasia dolens, copaiba-rash, and tabes mesenterica, 1 each ; no disease, 12.

## COMPARATIVE STATEMENT AS TO THE PREVALENCE OF DISEASE.

If we analyse Table III., we find that all the forms of continued fever present a notable decrease compared with the previous year:—the typhus admissions fell from 420 to 198, a decrease of 222; those from typhoid or enteric fever fell from 47 to 20, a decrease of 27; and those from non-specific simple fever fell from 103 to 50, a decrease of 53. Still more remarkable was the decline in smallpox and scarlet fever. In 1880–81 the smallpox admissions were 411; in 1881–2 only *one* patient was admitted (in the month of April) suffering from this disease. The scarlet fever admissions were only 27 against 129 in the preceding year. Measles and pneumonia show a decided increase—the admissions of cases of measles being 57 compared with 32, those of cases of pneumonia being 47 compared with 31. Five patients suffered from erysipelas against 2 in 1880–81. There were 3 cases of meningitis, all of which terminated fatally; 2 cases of intermittent fever, both recovering; 11 cases of rheumatism, and 6 cases of varicella. There was not a single case of relapsing fever, or of whooping cough, or of diarrhoea.

From this analysis it will be seen that epidemic diseases were by no means rife during the year, with the single exception of measles. This fortunate circumstance may fairly be attributed to two causes in particular—first, the fact that severe epidemics of smallpox, typhus, and scarlet fever in recent years had exhausted the receptivity of the population; and, secondly, the influence for good on the public health of the cool, breezy, showery summer of 1881, and of the singularly mild, open, and stormy winter which followed.

## RATE OF MORTALITY.

The deaths during the year were 48—a number which represents a rate of mortality of 10·19 per cent. on the admissions (471). This death-rate contrasts favourably with that of every year since 1877–78, when the deaths amounted to only 9·49 of the admissions. In 1878–79 the mortality rose to 20·78 during the height of the smallpox epidemic. It then declined steadily to 17·58 in 1879–80, 14·96 in 1880–81, and 10·19 in 1881–82.

The sad record of cases sent into hospital when beyond all hope of recovery is happily shorter than usual this year. Only 8 patients were classed as “hopelessly ill,” compared with 30 patients



so classed in 1880–81. In at least four of eight hopeless cases, the sequel proved that removal of the patients to the hospital, was in no way justifiable. “Bright’s disease, one day;” “meningitis, one day;” “congestion of the lungs, *six hours*;” and “puerperal fever, *sent in dying*,” are entries which certainly indicate a strange want of discretion on the part of those who were responsible for the removal to hospital of patients at the time actually in a dying state.

TABLE IV.—*Analysis of Deaths of Cases sent in beyond Recovery, 1881–82.*

No.	No. in Registry	Duration in Hospital	Disease	Note
1	86	1 day	Scarlet Fever	Sent in very bad
2	89	1 day	Bright’s Disease	Sent in very bad.
3	151	1 day	Meningitis	Sent in very bad.
4	216	2 days	Pneumonia	Sent in very bad.
5	265	1 hour	Premature Birth	Born in hospital.
6	311	2 days	Measles	Sent in very bad.
7	341	6 hours	Congestion of Lung	Sent in very bad.
8	446	1 day	Puerperal Fever	Sent in dying.

#### CAUSES OF DEATH.

The monthly number of deaths, and the diseases which caused them are set forth in Table V.

Of the 48 deaths which occurred during the year, 21 (or 43·75 per cent.) were caused by typhus. Curiously enough, 2 deaths from smallpox are entered in the Table, although only one case of this disease was admitted during the year. One of the deaths was of a patient under treatment prior to April 1, 1881, and the single smallpox patient admitted in that month also unfortunately died.

The largest monthly number of deaths (11) took place in May, and by a strange coincidence in November there was not a single death. Thirty out of the 48 deaths occurred in the first six months, and only 18 in the second six months. The epidemic of measles exercised no unfavourable influence on the mortality, for there were only 4 deaths among 57 cases—the death-rate being 7·0 per cent.

TABLE V.—*Showing the Deaths in each month, and the Diseases which caused them, during 1881–82.*

1881–82	Typhus Fever	Enteric Fever	Scarlatina	Pneumonia	Smallpox	Measles	Meningitis	Bright's Disease	Cerebral Abscess	Premature Birth	Congestion of Lung	Puerperal Fever	Tabes Mesenterica	TOTAL
April, . . .	1	1	—	—	1	—	—	—	1	—	—	—	—	4
May, . . .	5	—	2	1	1	—	1	1	—	—	—	—	—	11
June, . . .	4	—	—	—	—	—	—	—	—	—	—	—	—	4
July, . . .	4	—	—	—	—	—	1	—	—	—	—	—	—	5
August, . . .	—	—	2	1	—	—	—	—	—	—	—	—	—	3
September, . . .	1	—	1	—	—	—	—	—	—	1	—	—	—	3
October, . . .	3	—	—	—	—	1	—	—	—	—	—	—	—	4
November, . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	0
December, . . .	—	1	—	—	—	—	—	—	—	—	1	—	—	2
January, . . .	1	—	—	—	—	—	1	1	—	—	—	—	—	3
February, . . .	1	1	—	—	—	2	—	—	—	—	—	—	—	4
March, . . .	1	—	—	1	—	1	—	—	—	—	—	1	1	5
Total, . . .	21	3	5	3	2	4	3	2	1	1	1	1	1	48

## THE WEATHER.

The Meteorological Table (VI.) has, as usual, been drawn up to enable the reader to institute a comparison between the conditions of weather during the past hospital year and the prevalence of disease in the same period.

The *mean height of the barometer* during the year 1881 was 29·910 inches. The highest observed reading was 30·737 inches, at 9 a.m. on May 10. The lowest observed reading was 28·377 inches, at 9 a.m. on November 27. The extreme range of atmospheric pressure was, therefore, 2·360 inches.

The *mean temperature* of the year, deduced from the maximal and minimal readings of the thermometer in the shade by Kaemtz's formula, was 47·7°. The highest reading was 76·6° on July 17; the lowest reading was 15·2° on January 25. The average mean temperature for the years 1865–80, calculated in the same way, was 49·0°. The mean temperature, deduced from the daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m., was 48·4°.

TABLE VI.—Abstract of Meteorological Observations taken at 40 Fitzwilliam-square,  
West, Dublin, by J. W. MOORE, M.D. Dub., F.M.S.  
1881.

Month	Mean* Height of Barometer	Mean* Temp.	Mean* Humi- dity	Rainfall† in Inches	Rainy‡ Days	Mean* Direction of Wind	Remarks
January, -	29·914	32·8	86·9	1·369	14	W., S.E., & E.N.E.	A very severe month, with much snow and frost.
February,	29·787	39·9	86·1	2·879	18	E.S.E. & W.N.W.	A rather cold, dull month; the mean temperature 2·7° below the average.
March, -	29·858	42·8	81·6	1·885	17	W. by N. & E.S.E.	At first unsettled, with frequent rains and high winds. Cold and dry from the 20th.
April, -	29·986	45·5	78·6	1·329	13	E.	Cold, parching E. winds until the 22nd; then mild and showery to the close.
May, -	30·072	53·7	74·9	1·532	15	W.S.W., E., & W.	A fine spring month, notable for clear skies and bright sunshine, and moderate rainfall in showers.
June, -	29·923	56·6	75·9	2·666	21	S.W., & W.N.W.	A very showery, cool month, mean temperature 1·3° below the average.
July, -	29·960	60·3	75·9	1·863	15	S.W., W., & W.N.W.	Continuous S.W. and W. winds with rather changeable weather, but average warmth.
August, -	29·812	56·6	83·7	4·739	21	S.W., W., & N.W.	Very unsettled, with strong winds, frequent rains, and a low temperature, 3° below the average.
September,	29·991	54·7	87·6	1·599	12	W. & N.N.E.	A cool, generally fine month: rainfall and rainy days below the average.
October, -	30·011	47·7	81·5	3·470	18	E. & N.W.	A cold and stormy month, prevalent E. winds, large rainfall, and low temperature.
November,	29·712	50·0	82·4	2·173	18	S.S.W., S.W., & W.S.W.	Singularly open, stormy, and unsettled weather; no fogs; temperature 6·5° above the average.
December,	29·891	40·3	85·0	1·529	16	W., W.S.W., & S.W.	The beginning and end mild, but a cold period from the 7th to the 23rd.
Means and Totals -	29·901	48·4 §	81·7	27·083	198	W., S.W., & W.N.W.	A very cold and backward spring was followed by a changeable, windy summer. The autumn was the finest part of the year, and the winter was distinguished by its singular mildness.

1882.

January, -	30·247	44·1	84·9	1·476	17	S.W., W.S.W. & S.	Almost unprecedentedly fine and mild; complete absence of frost.
February,	30·117	45·9	84·3	1·862	16	W.S.W., S.S.W., & S.	Singularly open weather, S. and W. winds, and an absence of frost and snow.
March, -	29·935	46·5	79·9	2·260	17	W.S.W.	Very unsettled, stormy, open weather; mean temperature 3·1° above the average.

\* The columns marked with an asterisk are the results of observations taken daily at 9 a.m. and 9 p.m. The readings of the Barometer are corrected and reduced to 32° at Mean Sea Level.  
† The rainfall is recorded daily at 9 a.m.  
‡ A "Rainy Day" is one on which at least ·01 inch of rain falls.  
§ The Mean Temperature, calculated from the maximal and minimal readings of the Thermometer by Kaemtz's Formula, was 47·7°.

*Rain* fell on 198 days, including snow or sleet on 27 days, and hail on 32 days. The average number of rainy days in the years 1865–80 was 193·5. The total rainfall measured 27·033 inches, compared with an average of 28·194 inches in the years 1865–80. Of this amount only 11·660 inches fell in the first six months of the year, on 98 days.

As regards the *direction of the wind*, 730 observations were made during the year, with this result:—N., 34; N.E., 32; E., 95; S.E., 72; S., 65; S.W., 100; W., 216; N.W., 70; Calms, 36.

The year 1881 was rather colder than usual, with a rainfall somewhat below the average, the rainy days, however, being exactly equal to the mean of the preceding ten years. January was very severe, with much snow and frost. The mean temperature was  $32\cdot4^{\circ}$ , a lower value than that of any month in the fifteen years ending 1880, with the single exception of December, 1878, the mean temperature of which was  $32\cdot0^{\circ}$ . February was rather cold and dull; the mean temperature was  $2\cdot7^{\circ}$  below the average. The earlier part of March was unsettled, with frequent rains and high winds. The weather became fine and seasonable on the 15th, and continued so to the close. April was a cold, chiefly dry month; the mean temperature was  $2\cdot5^{\circ}$  below the average. May was a very fine spring month, notable for clear skies and bright sunshine and a moderate rainfall, principally in the form of showers. June was very showery and at times cold, the shade thermometer falling to  $36\cdot8^{\circ}$  on the 8th, and the mean temperature being  $1\cdot3^{\circ}$  below the average. July was characterised by almost continuous S.W. and W. winds, which often blew strongly, causing rather changeable weather; the mean temperature was slightly above the average. August opened with a fair promise, which was not fulfilled, for after the first few days, which were fair and warm, the weather became very unsettled with strong winds, frequent rains, and a low temperature—the mean being  $3^{\circ}$  below the average. September was a cool, generally fine month, the mean temperature slightly below, and the rainfall and rainy days decidedly below the average of previous years. October was rather cold and stormy—the mean temperature  $2^{\circ}$  under the average, with a preponderance of easterly winds and a rainfall above the average; a violent storm occurred on the 14th. The weather in November was throughout singularly open, stormy, and unsettled; the air was unusually free from fog. The mean temperature was  $2\cdot3^{\circ}$  higher than that of October, and  $6\cdot5^{\circ}$  above that of November, 1880. The beginning and the end

of December were mild, but a cold period commenced on the 7th, lasting to the 23rd; hence the mean temperature ( $40.3^{\circ}$ ) was slightly below the average.

A general review of the year 1881 shows that the annual mean temperature was  $1.3^{\circ}$  below the average ( $47.7^{\circ}$  compared with  $49.0^{\circ}$ ); the amount of cloud was as nearly as possible the average (61.0 per cent. compared with 60.9 per cent.); the rainfall was somewhat deficient (27.033 inches compared with 28.194 inches), while the rainy days were rather above the average, being 198 compared with 193.5.

The first quarter of 1882 was exceptionally mild; there was an almost complete absence of frost and snow throughout. In January and February the barometer rose to a phenomenal height—the isobar of 30.90 inches embraced the greater part of England, Ireland, and the North of France on the 18th of January, and on the 19th and 20th February the barometer again rose to 30.90 inches or upwards in the South of Ireland. With these high pressures the winds in Ireland were south-westerly or westerly, so that the air was mild. In March the weather remained open, but became unsettled and stormy.

#### SPECIAL DISEASES.

In analysing in detail the hospital statistics for the year, we shall have to consider—first, the Continued Fevers; secondly, the Exanthemata, or Eruptive Fevers. A few words in addition on the subject of Pneumonia may not be devoid of interest to those who, with the author of this Report, regard the croupous variety of that disease as a specific continued fever.

TABLE VII.—*Giving a Summary for Ten Years of the Admissions of Cases of Fever.*

Mean Temp. Fahr.	Years	Typhus	Enteric	Simple	Totals
$48.3$	1872-3	130	75	284	489
$49.5$	1873-4	113	77	173	363
$49.1$	1874-5	112	83	229	424
$48.9$	1875-6	109	47	162	318
$49.4$	1876-7	100	55	200	355
$48.8$	1877-8	134	51	220	405
$47.5$	1878-9	142	60	173	375
$47.4$	1879-80	94	37	104	235
$47.8$	1880-1	420	47	103	570
$49.7$	1881-2	198	20	50	268

I. THE CONTINUED FEVERS.—In Table VII. are set forth the yearly admissions of patients suffering from the various forms of

continued fever during the ten years ending March 31, 1882. The annual mean temperature is included in the Table. The total admissions of cases of continued fever in 1881–82 were 268, or less than one-half the admissions (570) in the previous year, and considerably under the average admissions (425) in the ten years ending March 31, 1881. Among the 268 patients there were 24 deaths—21 from typhus and 3 from enteric fever. The rate of mortality was, therefore, 8·9 per cent. compared with 8·77 in 1880–81; 5·53 in 1879–80; 8·0 in 1878–79; 4·91 in 1877–78; and 6·48 in 1876–77.

TABLE VIII.—*Showing the Number Admitted and Dead of Typhus Fever, of both Sexes, and at different Ages, for the year ending March 31, 1882.*

MALES				FEMALES			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 - -	7	—	—	Under 5 - -	7	—	—
5 and under 15	33	1	3·0	5 and under 15	22	1	4·5
15 „ 20	25	2	8·0	15 „ 20	12	—	—
20 „ 40	36	7	19·4	20 „ 40	32	2	6·2
40 „ 60	8	4	50·0	40 „ 60	16	4	25·0
60 „ 80	—	—	—	60 „ 80	—	—	—
Total, -	109	14	12·8	Total, -	89	7	7·8
Total No. Admitted, 198		Total No. Died, - - 21		Average Mortality, - 10·6			

(a) *Typhus*.—The epidemic of this variety of specific continued fever, which became severe in the middle of October, 1880,\* lasted until the close of the same month in 1881, when the admissions suddenly fell off, coincidently with the setting in of a long spell of unusually open, even warm, and stormy weather, and remained low, month after month, to the close of the hospital year. January and March indeed showed slight recrudescences of the outbreak—the admissions rising in the former month to 13 from 4 in December, and in March to 11 from 4 in February. Cold weather in the middle of December, followed by the excesses and exposure of the

\* Medical Report of Cork-street Hospital for 1881–82. Dublin Journal of Medical Science. July, 1881. P. 7.

Christmas holidays, are probably connected with the increased prevalence of typhus in January; the austerities of Lent may have had some connexion with a similar diffusion of the disease in March. The highest monthly number of admissions was 26 in May, 1881; the lowest number of admissions was 4 in November, December, and February.

In last year's Report mention was made of an unexpected and remarkable fall of typhus admissions from 95 in December, 1880, to 50 in January, 1881, notwithstanding a bitter frost and abundant snowfall, "or," it was added, "shall we say in consequence of these climatic conditions?" Here, then, is an apparent contradiction as to the influence of weather on the prevalence of typhus. In January, 1881, this infectious fever was checked by excessive cold, whereas in November of the same year it almost died out during singularly mild and stormy weather. But in reality there is no contradiction whatever in these facts. For, in the first place, the geographical distribution of typhus proves conclusively that very low temperatures are inimical to the development and propagation of the virus or contagium of this disease. Murchison<sup>a</sup> indeed says that "there is probably no part of Europe in which typhus has not been observed," and adds that, although travellers have asserted that typhus is never seen among the Laplanders or Esquimaux, it is probable from the writings of Schleisner that epidemics have often occurred in Iceland. At the same time, it is to be remembered that, although Iceland has a uniformly cold climate, excessively low temperatures are the exception in that country owing to its insular position.

Again, if a single fact is established in the life history of the contagium of typhus, it is that it is most readily destroyed or rendered inert by contact with atmospherical air, presumably through oxidation. If this be so, what vast magazines of typhus-poison were rendered powerless for mischief in the violent tempests of last November, nearly all of which were equatorial in character, so that neither doors nor windows were barred against the blasts that came with the warmth of a summer squall.

After thus dwelling on the destruction of the virus of typhus fever by oxidation, through the natural agency of the currents of the atmosphere and of strong winds, it may be of interest to describe the therapeutical means adopted with a view of neutralising

<sup>a</sup> *The Continued Fevers of Great Britain. Second Edition. London: Longmans, Green, & Co. 1873. P. 55.*

the fever poison,\* when it was actually at work in the patient's system. First, attention was constantly directed to the ventilation of the fever wards. In severe cases, where the eruption was copious and dark (petechial), a strong current of air was allowed to blow over and around the patient whenever the state of the weather at all permitted it. The weight of bed-clothes was reduced to a minimum, so that the fresh air might reach the surface of the whole body. It might be supposed that the exposure would give the patients cold, but experience proves that this is not so; and I am convinced that in a vast majority of cases the bronchial catarrh and bronchitis of typhus are not the result of cold, but of passive hyperæmia of the bronchial mucous membrane—that, in fact, these lesions belong to the essential pathology of the disease.

Secondly, directions were given to the nurses in all bad cases with profuse eruption to sponge the entire surface of the body twice or three times a day with vinegar and warm water, to which some of Condry's permanganate of potassium solution was added at the last moment.

Thirdly, solution or tincture of the perchloride of iron, chlorate of potassium in moderate doses, and quinine, were given in nearly all such cases, either separately or in combination, and with remarkably good results.

Under this hygienic treatment several very grave cases progressed favourably; and it is an interesting fact connected with my own practice in the hospital that I seldom felt called upon to order for these patients any large quantity of alcoholic stimulants.

During the year 198 patients were admitted in typhus fever—76 in the first quarter, 64 in the second, 30 in the third, and 28 in the fourth. More than two-thirds (140) of the total admissions, therefore, fell within the first six months, the season of spring and summer; and less than one-third (58) within the second half-year, including the autumn and winter. The deaths were 10 out of 76 (13·2 per cent.) in the first quarter; 5 out of 64 (7·8 per cent.) in the second; 3 out of 30 (10 per cent.) in the third; and 3 out of 28 (10·7 per cent.) in the fourth. These figures bring out the interesting result that the mortality, unlike the admissions, was lowest in the summer quarter (July–September), and highest in the winter quarter (January–March). Not a single death from typhus occurred in August, November, or December. Table VIII. shows that the total deaths within the year were 21, a number

\* Murchison. *Loc. cit.* Page 21.



which yields an average death-toll of 10·6 per cent., or almost exactly the same as that of the previous year—namely, 10·7 per cent. The probable reasons for this relatively low mortality were stated in last year's Report.

Table VIII. also illustrates the influence of advancing age in raising the death-rate from typhus. Children nearly always recover. Of 14 patients under 5 years of age, not one died; of 55 patients aged from 5 to 15 years, only 2 succumbed; but of 24 patients aged between 40 and 60 years, 8 died, being 33·3 per cent., or exactly one-third. No patient above 60 years came under observation.

The influence of sex is better shown in this year's statistics than it was in those of 1880–81. Fourteen out of 109 males died, the mortality being 12·8 per cent. Only 7 out of 89 females succumbed, the mortality being 7·8 per cent.

The history of the origin and spread of the outbreak of typhus, the decline of which we are now happily recording, was sketched in last year's Report,\* and, therefore, need not be further alluded to.

TABLE IX.—*Showing the Number Admitted and Dead of Enteric Fever, of both Sexes, and at different Ages, for the year ending March 31, 1882.*

MALES				FEMALES			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 . .	—	—	—	Under 5 . .	—	—	—
5 and under 15	1	—	—	5 and under 15	1	—	—
15 „ 20	6	—	—	15 „ 20	2	—	—
20 „ 40	7	2	28·5	20 „ 40	3	1	33·3
40 „ 60	—	—	—	40 „ 60	—	—	—
60 „ 80	—	—	—	60 „ 80	—	—	—
Total, . .	14	2	14·2	Total, . .	6	1	16·6
Total No. Admitted, . 20		Total No. Died, . . 3		Average Mortality, . 15·0			

(b.) *Enteric or Typhoid Fever.*—Of this form of specific continued fever only 20 cases came under observation, compared with 47 in the

\* Dublin Journal of Medical Science. July, 1881. P. 19.

previous year, 37 in 1879–80, and 60 in 1878–9. As is usual, the disease was most prevalent in autumn—the admissions by quarters being—first, 2; second, 6; third, 6; fourth, 6. Of the 20 patients, 8 were admitted within the first six months, and 12 within the second six months. Three cases terminated fatally, two of them at least by peritonitis. The deaths occurred in April, December, and February, and were represented by a mortality of 15 per cent., compared with 12·7 in 1880–81, 10·8 in 1879–80, and 8·3 in 1878–79. In last year's Report I wrote as follows:—  
“The incidence of a high mortality at a much younger age than is the case in typhus is well shown in the table, which also illustrates the fact that enteric fever is essentially a disease of adolescence and early adult life.” These remarks apply equally to the statistics of the present year.

It may not be foreign to the purpose of this Report to note that the treatment of ordinary typhoid cases is, in our hands, based on common sense principles. We carefully diet the patients, and give them little medicine. Great attention is paid to cleanliness about the invalid's person and bed. In convalescence, solid or irritating food is withheld often for many weeks, and when leaving the hospital the convalescents are cautioned against indiscretions in diet. As regards poulticing in this fever, I have quite given up the application to the abdomen of heavy linseed-meal poultices, in favour of the following:—A piece of lint of suitable size is moistened with a warmed mixture of laudanum (one fluid drachm), glycerine (seven fluid drachms), and water (seven fluid ounces), and laid over the abdomen; oiled silk or gutta-percha paper is then applied, over which is placed a sheet of French wadding or cotton wool—the whole being kept in position by a soft flannel roller or bandage. This “glycerine poultice,” as it may be called, is at once comfortable and efficient.

(c.) *Simple Fever*.—Only 50 cases were classified under this heading, against 103 in the preceding year, and 102 in 1879–80. None of the patients died. The seasonal distribution of the cases is interesting from its close coincidence with that of typhus. Thus, of the 50 patients 13 were admitted in the first three months (typhus admissions=76), 20 in the second quarter (typhus=64), 9 in the third quarter (typhus=30), and 8 in the fourth quarter (typhus=28). To quote last year's Report:—“This coincidence with the periods of maximal prevalence of typhus strengthens the opinion expressed in previous Reports, that many cases of

so-called 'simple fever' are really instances of abortive or undeveloped typhus or enteric." At the same time, the large number of admissions of "simple fever" in the summer quarter (20) is suggestive, for it is at that season of the year that such exciting causes of non-specific fever as over-fatigue, exposure to the sun, and over-eating at picnic parties, are in full play.

**II. THE EXANTHEMATA OR ERUPTIVE FEVERS.**—This year witnessed a complete change in the epidemic constitution—small-pox which had been prevalent since November, 1876, and epidemic from December, 1877, completely died out at the beginning of the hospital year. Scarlet fever also showed a greatly lessened prevalence, the admissions declining to 27 from 129 in 1880–81. But, on the other hand, measles increased decidedly—the admissions rising from 32 in 1880–81 to 57.

**TABLE X.**—*Showing the Number Admitted and Dead of Scarlet Fever, of both Sexes, and at different Ages, for the year ending March 31, 1882.*

MALES				FEMALES			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 - -	2	1	50.0	Under 5 - -	3	2	66.6
5 and under 15	5	1	20.0	5 and under 15	11	1	9.0
15     "     20	—	—	—	15     "     20	1	—	—
20     "     40	2	—	—	20     "     40	3	—	—
40     "     60	—	—	—	40     "     60	—	—	—
60     "     80	—	—	—	60     "     80	—	—	—
Total, -	9	2	22.2	Total, -	18	3	16.6
Total No. Admitted, - 27		Total No. Died, - 5		Average Mortality, 18.5			

(a.) *Scarlet Fever.*—Of the 27 cases, 5 were admitted in the first quarter, 11 in the second, 9 in the third, and only 2 in the fourth. Seventy-four per cent. of the patients, therefore, came in during the last six months of 1881. Twenty-one out of the 27 patients were children under 15 years of age, and all the deaths occurred amongst this group, the mortality being as high as 23.8 per cent. Of 5 children under 5 years of age 3 died, or 60.0 per cent. Can

anything more forcibly prove the malignancy of the poison of scarlet fever in early childhood? In this respect the disease is the correlative of typhus. Glandular enlargements, scarlatinal cervical bubo, and diffuse cellulitis were, unfortunately, usual complications.

Although the general death-rate, 18·5, was high, it does not compare unfavourably with that of recent years. It was 17·8 in 1880–81, 27·5 in 1879–80, and 31·0 per cent. in 1878–79.

TABLE XI.—*Showing the Number Admitted and Dead of Measles, of both Sexes, and at different Ages, for the year ending March 31, 1882.*

MALES				FEMALES			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 -	10	4	40·0	Under 5 -	15	—	—
5 and under 15	6	—	—	5 and under 15	13	—	—
15 „ 20	2	—	—	15 „ 20	6	—	—
20 „ 40	2	—	—	20 „ 40	3	—	—
40 „ 60	—	—	—	40 „ 60	—	—	—
60 „ 80	—	—	—	60 „ 80	—	—	—
Total, -	20	4	20·0	Total, -	37	—	—
Total No. Admitted, - 57		Total No. Died, - 4		Average Mortality, - 7·0			

(b.) *Measles*.—Although Dublin was visited by a severe and wide-spread epidemic of this disease in the last few months of the hospital year, Table XI. shows that the admissions of cases of measles were only 25 in excess of those in 1880–81. In last year's Report it was pointed out that the fluctuation in the number of cases of measles admitted had been singularly small of late years. The actual numbers were in 1877–78, 42 patients; 1878–79, 35; 1879–80, 30; 1880–81, 32. And now, even under the pressure of a great epidemic, the admissions rose only to 57. The inference is either that the outbreak was confined to the well-to-do classes, who would not seek admission to hospital, or that those ill of measles were treated at home in the crowded tenements of the poorer parts of the city, to their own injury and the detriment of the public health. The former hypothesis is not tenable for a moment in the

presence of the facts which I shall presently mention. The latter explanation is, unfortunately, the true one.

And first, it will be well to draw attention to the monthly distribution of the cases admitted to our wards, and to the relatively low mortality, 7·0 per cent., which prevailed amongst those treated in the hospital. Table III. shows that in the first quarter of the year 1881–82 (April–June) only one case of measles was admitted; in the second quarter (July–September) the admissions were 9; in the third, 15; and in the fourth, 32. In the last six months of the year, then, 47 out of the 57 cases were admitted. The influence of the epidemic, which began early in October and suddenly assumed serious proportions about the middle of December, in Nos. 2 and 3 North City Districts, is indeed seen in these statistics, but only in a very modified degree. Of the 4 deaths, 1 occurred in October, 1 in February, and 2 in March. In the first case, included in Table IV., a little child was brought in moribund from catarrhal pneumonia, having been ill for four days before admission. In at least two of the remaining fatal cases of measles the same complication was the immediate cause of death. All the children who died were boys under five years of age.

As was stated above, the death-rate among the 57 cases was only 7·0 per cent. This compares not unfavourably with a mortality of 6·2 per cent. in the previous year, and of 3·3 in 1879–80, and with the exceptionally high rate of 25·7 per cent. in 1878–79. This circumstance justifies us in assuming that the type of the disease in the present epidemic was naturally very mild.

Now let us look for a moment at the statistics of the epidemic given in the Weekly and Quarterly Reports of the Registrar-General, Dr. T. W. Grimshaw, the consulting physician of this hospital. In the third quarter of 1881 (July–September) 9 deaths from measles were registered in the Dublin Registration District; in the fourth quarter (October–December) the deaths registered as due to this disease were 133, and of these 70 or 52·6 per cent. occurred in Nos. 2 and 3 North City Districts, the population of which is 59,356, or only about one-sixth that of the entire Metropolitan Registration District. In the first quarter of 1882 (January–March) the deaths ascribed to measles were 432, this number being equivalent to 71 per cent. of the total number of deaths from diseases of the zymotic class. Of these 432 deaths, 186 occurred in the North City Districts, 165 in the South City districts, and 77 in the suburbs. Here, then, we observe a wide

diffusion of the disease, which, originating in two city districts, soon spread in all directions, until at last it invaded even the healthier suburbs on both the north and the south sides of the city. A study of a highly instructive table in the Registrar-General's Reports—that, namely, which shows the occupation, or social position, of the persons whose deaths are registered, proves conclusively that from December onward the fatal cases of measles were almost exclusively confined to the labouring and artisan classes and to tradespeople. This very suggestive fact emphasises the extraordinary neglect of hospital accommodation and hospital relief which has been shown by the people during the epidemic. According to the Registrar-General's return only 362 patients suffering from measles were treated in the principal Dublin hospitals during the six months ending March 31, 1882. Of these 362 patients, 45 died—a number which represents a death-rate of 12·4 per cent., or nearly twice as great as that observed in Cork-street Hospital.

Even assuming that this relatively high mortality—12 per cent.—represents the actual death-rate from measles in the epidemic, we find that in the six months from October, 1881, to March, 1882, inclusive, at least 4,708 cases of measles occurred in Dublin and its suburbs, and of these patients only 362 were treated in hospital, the remainder, 4,346 in number, having been kept at home to act as so many foci from which the virus of the disease could spread.

If we take the Cork-street Hospital death-rate of 7·0 per cent. as the standard mortality, we get the result that some 8,071 cases of measles occurred in Dublin within six months, and that of these only 362, or 5 per cent., sought advice and treatment in all the Dublin hospitals. Well may we ask why section 141 of “The Public Health (Ireland) Act, 1878,” which provides for the compulsory removal to hospital of “any person who is suffering from any dangerous infectious disorder, and . . . is lodged in a room occupied by other persons not so suffering,” was permitted to become a dead letter in the case of this epidemic. Nor can we resist the conclusion that the history of the outbreak and spread of the disease affords an irresistible argument in favour of early legislation on the subject of the compulsory notification of infectious diseases.

(c.) *Smallpox*.—It is a matter for congratulation that we can at last record the cessation of that epidemic of smallpox which began at the close of 1876, and assumed serious proportions in December

of the following year. Only one case was admitted during the past twelve months. The patient was a little girl, three years of age, *never vaccinated*, who had travelled from London (where smallpox was then prevalent) to Dublin a few days—certainly not more than a week—before she sickened of confluent smallpox. She was admitted on April 30, 1881, being then on the sixth day of her illness. Unfortunately, she succumbed after five days in hospital, on the eleventh day. This was clearly an imported or sporadic case, and there can be little doubt that the child fell a victim to a whim on the part of her father, who would not allow her to be vaccinated.

A reference to Table III. will show that, although only one case of true smallpox was admitted during the year, two deaths from this disease occurred, so that the death-rate from smallpox for the year is—strangely enough—*two hundred per cent.* The second death was that of a vaccinated man, aged twenty-six, who was admitted on March 25, 1881, on the *eleventh* day of confluent smallpox. He lived eight days after admission, dying on the 2nd of April, that is, within the hospital year.

During the year, six cases described as “varicella” were treated in the wards. All of these were admitted within the first three months (April–June)—a fact which would raise a suspicion that some of these cases were examples of varioloid, occurring at the close of the epidemic of smallpox. But, apart from the clinical features of this group of cases, the circumstance that one of the patients was unvaccinated makes it unlikely that the disease would assume so mild a form—in that instance, at all events—were it really smallpox.

III. PNEUMONIA.—It is not customary to mention this disease separately in the Reports of Cork-street Hospital. But I am induced to devote a short space to it on the present occasion, not only because pneumonia was one of the prevailing epidemics in Dublin during the past winter and spring, but also and particularly because of its pythogenic origin in many cases.

At my request, Dr. Atkins has accordingly prepared Table XII., showing the number of patients of both sexes who were admitted and who died of pneumonia during the hospital year ending March 31, 1882.

I regret that we are not able on this occasion to classify the disease under the headings “croupous,” “catarrhal,” and “inter-

stitial;" but an effort will be made to do this in future. Such a classification is all the more necessary since croupous pneumonia is the form of inflammation of the lung which arises from pythogenic causes, and is sometimes met with as a complication in typhoid fever, while catarrhal pneumonia is the deadly complication of measles in childhood.

TABLE XII.—*Showing the Number Admitted and Dead of Pneumonia, of both Sexes, and at different Ages, for the Year ending March 31, 1882.*

MALES				FEMALES			
Ages	No. Admitted	No. Died	Mortality per cent.	Ages	No. Admitted	No. Died	Mortality per cent.
Under 5 -	THE BOSTON SOCIETY FOR MEDICAL OBSERVATION			Under 5 -	—	—	—
5 and under 15				5 and under 15	1	—	—
15 " 20				15 " 20	2	1	50·0
20 " 40				20 " 40	8	—	—
40 " 60		6	—	40 " 60	4	—	—
60 " 80		—	—	60 " 80	—	—	—
Total -	32	2	6·3	Total -	15	1	6·6
Total No. Admitted, 47		Total No. Died, 8		Mortality per cent., 6·4			

During the past year 47 patients were admitted suffering from pneumonia. This was a considerable increase on the number of cases treated in the previous year—namely, 31. Table III. shows the monthly distribution of the admissions; they were most numerous in July (8) and August (7)—that is, in the middle of summer. Taking the quarterly admissions, we find that they were 13 in the first quarter (April–June), 17 in the second, 6 in the third, and 11 in the fourth. In other words, the end of winter and the spring and summer were the seasons when pneumonia was most prevalent, while it was comparatively infrequent in autumn and the beginning of winter. This is in accordance with observed facts as to the seasonal prevalence of this disease.

A comparison of the hospital statistics with those relating to the prevalence and fatality of pneumonia in the Dublin Registration District, given in the Registrar-General's Reports, is very interesting and instructive. In the thirteen weeks ending July 2, 1881,



84 persons were admitted to the principal hospitals in Dublin suffering from pneumonia; 17 deaths from this disease occurred in the same hospitals, while the deaths from it registered in the entire district were 95. In the thirteen weeks ending October 1, the corresponding numbers were—admissions, 43; deaths in hospital, 4; deaths registered, 40. In the thirteen weeks ending December 31, the numbers were—admissions, 58; deaths in hospital, 9; deaths in district, 95. In the thirteen weeks ending April 1, 1882, the numbers were—admissions, 81; deaths in hospital, 18; total deaths, 147. From these figures it will be seen that the seasonal fall and rise in the admissions noted in Cork-street Hospital was generally observed. Happily, our statistics of mortality are not comparable with those of the hospitals in general, or of the registration district, for only 3 of the 47 cases of pneumonia treated in our wards during the year terminated fatally. The resultant death-rate was 6·4 per cent., or scarcely more than one-third of the rate of mortality of the Dublin hospitals in general, which was 18·0 per cent., 48 deaths having occurred amongst 266 patients who were admitted. The quarterly returns of deaths from pneumonia in the hospitals and in the registration district at large were as follows:—

	In Hospital.	In District.
First Quarter (April–June) -	- 17	95
Second „ (July–September)	- 4	40
Third „ (October–December)	- 9	95
Fourth „ (January–March)	- 18	147
	<hr/>	<hr/>
Totals -	- 48	377

There is reason to believe that the large number of admissions to the Dublin hospitals in general, and of deaths in the fourth quarter, is to be partly explained by the prevalence of the epidemic of measles. Probably in some fatal cases of this disease (catarrhal) pneumonia was returned as the immediate cause of death, and occasionally a child was sent into hospital as suffering from “pneumonia” when the original or primary disease was really measles.

#### CONCLUSION.

In concluding this Report, I desire to thank Miss Maguire, the Lady Superintendent of the Hospital, for her willingness on all occasions to give effect to any suggestions made in the interest of

the patients and of the Institution. Nor can I omit to express my grateful sense of the faithful, self-denying manner in which the nurses, without exception, have discharged their duties, by night as well as by day.

Lastly, I would thankfully acknowledge the providential exemption from accident enjoyed by all the inmates of the Hospital throughout the past year.

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#### HEREDITY IN ARTERIAL ANOMALIES.

So far as we know, but a single instance has ever been recorded of hereditary variations in the vascular system. In the hope that the knowledge of such a possibility may stimulate observation and inquiry into the family history of any observed case, we desire to call attention to this unique case, published by Dr. G. Schneck, in the *Chicago Medical Journal and Examiner* for 1879, p. 475. At three to four cm. above the wrist the radial artery passed over the supinator longus muscle, and ran over the tendons of the radial extensors above the styloid process, to seek its normal distribution. The family consisted of the father, six children, and fifteen grandchildren—twenty-two persons in all. In nineteen out of the forty-four arms the above anomaly occurred. Four times both arteries were abnormal, twice the right radial only was abnormal, and nine times the left radial only was abnormal. In only seven of the twenty-two persons were both arteries normal. The mother and the children-in-law had normal arteries, so that it was purely a paternal inheritance; yet the daughters transmitted the anomaly better than the sons. The father had both arteries abnormal; every one of the six children had the left artery, and the left only, abnormal; four of the grandchildren had both abnormal, like their grandfather; four had only one abnormal, like one of their parents; two of the six children had no families.—*Philadelphia Med. News*, 18th March, 1882.

#### ACUTE GLAUCOMA INDUCED BY DUBOISIA.

THAT atropia instilled into an eye may excite an attack of acute inflammatory glaucoma is generally accepted by ophthalmologists as an established clinical fact. An inference which may properly be induced from this is that all drugs belonging to the mydriatics may likewise cause this morbid state to appear. A practical illustration of this as regards duboisia is presented in the history of a case—the first, so far as we are aware, on record—reported by Dr. Albert G. Heyl, in the *American Journal of the Medical Sciences* for April, 1882, in which, following the instillation of duboisia, acute inflammatory glaucoma was speedily developed in an eye in which a simple glaucoma already existed.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*The Human Brain: Histological and Coarse Methods of Research. A Manual for Students and Asylum Medical Officers.* By W. BEVAN LEWIS, L.R.C.P. (Lond.). London: Churchill. 1882. 8vo. Pp. 163.

THIS work is a reprint of papers which have been published in *Brain*. These have been found so useful that the author has consented to reproduce them in a collected and accessible form.

The subject is divided into two parts. The first describes the coarse examination of the brain and its membranes, or that examination which can be made without the aid of the microscope; in the second part the microscopic examination is described.

The first part is divided into several chapters, which treat in succession of the membranes, the vessels, and the brain substance itself. Directions are given for the removal and dissection of the brain, and a description of the convolutions, illustrated by photographs, is appended.

In the second chapter the author falls into a rather serious error. After having described the parietal arachnoid as being merely a layer of nucleated polygonal epithelium lining the inner surface of the dura mater, he goes on to notice a space intervening between the parietal layer of the arachnoid and the dura mater, which, he says, has been described by Axel Key and Retzius, as the *Subduralraum*. He does not give any method for the demonstration of this "great cavity," which we need hardly say does not exist, the subdural space of Key and Retzius being what is still frequently spoken of as the sac of the arachnoid. All through there seems to be a want of accuracy in the ideas of the author on the structure of the membranes of the brain. Thus (on p. 42) we find a distinction drawn between effusion of serum beneath the cerebral arachnoid and in the meshes of the pia mater. These two positions are, we think, identical.

In describing and explaining the effects of variations of intracranial pressure, whether intra or extra-vascular, the author

adopts the well-known but somewhat questionable theories of Niemeyer. In the sections on the determination of the volume, weight, and specific gravity of the brain, much valuable information will be found. The specific gravity is increased where inflammatory exudation has taken place, while in non-inflammatory white softening it is diminished.

The plan for the dissection of the brain (which is given on p. 71) is not, we think, the best which could be adopted. We believe that, in accordance with the directions of Virchow, it is most important in making the necessary incisions not to separate the parts of the brain completely from one another, so that at any stage of the dissection all the parts can be again placed together in their original position. We think also that the relations of the internal capsule and basal ganglia to one another is better shown by an incision parallel to the horizontal limb of the fissure of Sylvius than by one parallel to the upper surface of the corpus callosum; and we cannot see what is to be gained by cutting one hemisphere into horizontal and the other into transverse slices, when the lesions sought for might be on either or both sides. Whichever method is best for the demonstration of these lesions should be adopted for both hemispheres.

In the second part the most noteworthy point is the mode which the author employs for making microscopic sections. He thinks the sections made in the usual way from hardened brains, although useful for many purposes, are in most respects much surpassed by those cut from the fresh frozen organ. The freezing must be carried only so far as to give the brain sufficient consistence; for if the freezing be complete, as is the case in the ordinary methods when the cold is applied by a mixture of ice and salt, the spicules of ice which are formed in the tissue destroy all its finer structure. For this incomplete method of freezing the author has invented a microtome, in which the cold is applied by ether spray to the under-surface of the metal plate on which the tissue rests. This instrument seems to have given the best results in the hands of its inventor, and is highly spoken of by Professor Stirling. We have no personal knowledge of it, but from its description we should think it was rather difficult to use.

A full description is given of the most approved methods of staining and mounting sections of the brain, whether cut from the fresh or from the hardened organ. The author places chief value on osmic acid, aniline black, and picro-carmin, each of which has

its own advantages. The method of partial clearing of the sections (given on p. 121) is, in principle, the same as that employed by Henle and Merkel, who, after complete clearing by oil of cloves or creasote, added water to the sections. It is similar also to the method of clearing by Bronner's *Fleckwasser*, the beautiful results of which are figured in Henle's *Nervenlehre*, or by xylol, more recently recommended by Merkel. It is a very valuable method, although the appearances are not permanent.

The work concludes with a list of reagents and an index. This is a book which, although not free from errors, contains much useful information in short compass, and will be found of service to anyone engaged in the study of cerebral pathology.

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*The International Encyclopædia of Surgery. A Systematic Treatise of the Theory and Practice of Surgery, by Authors of Various Nations.* Edited by JOHN ASHHURST, Jun., M.D., Professor of Surgery in the University of Pennsylvania. In Six Vols. Vol. I. London: Macmillan & Co. 1882.

THIS is the greatest effort which has yet been made by American surgeons in the way of publication. Following the example set in Europe by Holmes, and Ziemssen, and Russell Reynolds, who have each produced "systems" running through several volumes, and dealing with the whole subject of medicine or of surgery, Dr. Ashhurst has gathered round him a number of contributors more or less distinguished, and in this volume of his *Encyclopædia* he gives us the firstfruits of his labours. The title "international" is, however, not very fully substantiated in the example we have before us, for, of the seventeen authors who have written thus far, we note that but four do not practise in the United States, these being made up of two English, one Austrian, and one French. The first are, Mr. Butlin, Assistant-Surgeon to Bartholomew's Hospital, London, well known for his contributions on pathology, and Mr. Maunsell-Moullin, Surgical Registrar to the London Hospital; and the two remaining are the distinguished Professor Stricker, of Vienna, and Professor Verneuil, of Paris. We do not know what arrangements may have been made regarding the future volumes, but we do hope to find that some of the men who have made English surgery famous will be represented in the list of authors.

The volume opens with a lengthened article by Professor

Stricker on "Disturbances of Nutrition; the Pathology of Inflammation." The subject is dealt with in a very able manner, as might be expected from so brilliant a histologist, and the reader is put in possession of all the views which have been accepted as the best upon this most interesting topic. One of the most valuable articles in the book is that from the pen of M. Verneuil, who writes upon the "reciprocal effects of constitutional conditions and injuries." This is an aspect of surgical practice which is too often lost sight of by the mere operator; and it is one to which already attention has been especially called by Sir James Paget in his classical lectures. We are glad to think that modern education, deeper and more liberal than it has ever yet been, is gradually weeding out the pure mechanic in surgery, and that we are now more careful to inquire into the conditions of organs, and the general constitutional state, before beginning even apparently trifling operations. It is by this habit of search and observation, combined with the safer methods of dealing with surgical wounds, that the calamities which hover about all operative procedures are being minimised. The paper to which we have referred will place before the surgeon in, perhaps, a new light, the importance which is to be attached to careful investigation into the functions of the patient, and will have the effect, we do not doubt, of staying some reckless hands, where to operate would often mean death.

The editor devotes himself to the subject of amputations—and although the article is by no means exhaustive, the surgeon will find in it most that is necessary to his work. The section on amputation at the hip-joint gives an interesting *résumé* of the history of this operation. It appears first to have been done in France in 1748, in a boy who had gangrene of the lower extremities; but there it was only necessary to divide the ligamentum teres with a scissors. The patient died of the disease. Henry Thomson, of the London Hospital, was the first to perform it through living tissues in 1777. Since then it has struggled through varying fortunes, until it now holds an accepted position as a justifiable procedure. The industry of inventors is well exhibited in the desire of surgeons to reduce the mortality by improving the methods, and we are glad that Dr. Ashhurst does no more than describe a few of the forty-five different plans which, according to Farabœuf, have been submitted to the profession. We fail to find, however, a reference to Mr. Furneaux Jordan's procedure, which has much to commend it for simplicity and safety. One

remarkable case is recorded in which a patient under the care of Dr. Wharton, of the Pennsylvania University Hospital, had one limb amputated below the knee, and the other at the hip-joint, synchronously, and recovered. Amputation at the hip-joint in military practice is, as might be expected, one of the most fatal in surgery. The double shock, the want of efficient nursing, and the condition of the patient, who is so frequently suffering from the effects of prolonged exposure—all combine to bring about this result. Primary operations had a mortality of 92·7 per cent; intermediate of 93·6; and secondary of 62·9—an improvement which would seem to point in favour of delay.

It is, however, in cases of disease that the best results have been reached, for here we find that in 276 cases there was a mortality of only 40·2—a very remarkable success, when we remember that the list extends over a period for the greater part of which the dressing of wounds was of the most unsatisfactory nature. In spite of the terrible mortality in military practice, however, the total of 633 cases of hip-joint amputations only gives a mean mortality of 64·1, a result which certainly is one of which surgery may be proud. Of the other articles, those upon Scrofula and Tubercle, by Mr. Butlin; the General Principles of Surgical Diagnosis, by Professor Hayes Agnew; Operative Surgery in General, by Dr. Brinton, are the most noticeable, and are worthy of the names of their authors.

Of the manner in which the book is produced we must say that it is not at all up to what we are accustomed to expect from the American press. The paper is strong, but coarse; the woodcuts, which are not in such number as they might be, are poorly drawn and roughly finished—inexcusable faults when we remember the justly high position which American engravers have won. These are drawbacks which certainly damage a publication of this sort, and we hope that in the future volumes some more attention will be given to the manner of production. But beyond these objections we are glad to welcome the *Encyclopædia of Surgery*. From what we have in this specimen we may regard it as almost entirely an expression of American views; and although it may not be looked upon therefore as an “international” work, we shall be none the less pleased to receive the teaching of men so competent. It deserves to be a popular book of reference with the profession, and we are quite sure that it will receive from surgeons in the old land a generous welcome.



*Des Températures générale et locale dans les Maladies du Cœur.*  
Par le Dr. ZACHARIE-LOUIS SABATIER. Paris : J. B. Baillière  
et Fils. 1881. Pp. 162.

IN this work the author gives the results of temperature observations made simultaneously in the axilla and at different parts of the surface, chiefly over the precordia and other parts of the thorax. He has invented an ingenious and simple contrivance for applying the surface thermometers, and has studied, apparently with great care, the fallacies to which such observations are liable. The volume consists chiefly of a record of cases, which are illustrated by numerous temperature charts. The conclusions to which he has arrived seem, however, to be as yet rather meagre.

He finds that the physiological temperature of the precordial region is variable, with an average of  $36.1^{\circ}$ .

At the right nipple the temperature is four-tenths of a degree higher than midway between the left nipple and the middle line.

In pericarditis the precordial temperature is increased, but is usually half a degree below that of the body generally. The local temperature may sometimes, however, reach or exceed the general, and may remain high when the general temperature has declined. Pleuritis causes an elevation of temperature in the corresponding side.

Chronic diseases of the heart do not cause either a general or a local rise of temperature. In hypertrophy of the heart the temperature may be even less than on the opposite side.

Blisters applied to the precordia cause for several days a local elevation of temperature.

### RECENT WORKS ON VIVISECTION.

1. *The Influence of Vivisection on Human Surgery.* By SAMPSON GAMGEE, F.R.S.E. Second Edition. London : Churchill. 1882. Pp. 32.

2. *Bacon and Shakespeare on Vivisection.* In Reply to Dean Plumptre. Melbourne : Sands and M'Dougall. 1881. Pp. 39.

1. It is difficult to understand how, in the face of evidence such as that furnished in Mr. Gamgee's pamphlet and in many other recent works scarcely less able, the opponents of vivisection can persist in denying that any good has resulted from the practice of experimental physiology. Mr. Gamgee, who is a surgeon of



experience, and who is well acquainted with the history of his profession, and whose opinion on the matter of which he writes is certainly of more value than that of men who are unacquainted with the rudiments of either physiology or surgery, has given a forcible and temperate statement of facts which cannot fail to convince any unprejudiced reader of the value of the physiological or experimental method of advancing medical science. His statement that "without experiments on living animals scientific surgery could not have been founded, and its present humane and safe practice would be impossible," is, we think, incontrovertible; and it is for the public and the legislature to choose whether they will give up the benefits of scientific medicine, or consent to allow men of science to pursue their calling undisturbed by the clamour of ignorance and bigotry.

2. This paper is more of literary than of scientific interest. The author holds the view that the plays and poems usually attributed to Shakespeare were in reality written by Lord Bacon. In the work before us he points out that both in Shakespeare's plays and in the undoubted works of Bacon mention is made of experiments on living animals, and he finds in the similarity of the opinions expressed on the subject in both places a further confirmation of his opinion as to the identity of the authors. The paper is very ably written and will well repay perusal.

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*The Statistical Atlas of England, Scotland, and Ireland.* Edited by G. PHILLIPS BEVAN, F.S.S., F.G.S., &c. Part XI.—Sanitary. Edinburgh: W. and A. K. Johnston. 1881.

It is intended that this "Statistical Atlas" of the three divisions of the United Kingdom shall consist of fifteen parts, each part containing three coloured maps and accompanying descriptive letterpress. Eleven parts have been already published, including the one now before us. In it are contained the main facts relating to the sanitary condition of the United Kingdom.

Part XI. contains three maps—one of England and Wales, one of Scotland, and one of Ireland—all executed in that style which is so characteristic of the eminent firm which is publishing the Atlas. Certain marks and figures scattered over the maps give information for each county and its principal towns as to general hospitals or infirmaries, with the number of beds in each; cottage hospitals;

convalescent homes or hospitals, lunatic asylums, lying-in institutions and hospitals for diseases of women; children's hospitals; special hospitals, fever hospitals, military and naval hospitals, and medical schools. Information can also be gleaned from the maps as to the number of births, marriages, and deaths registered in each county, the rate of mortality in the chief towns, and the number of violent deaths.

We notice that the information for Ireland and Scotland in the maps is not so full as it is for England and Wales, but this is perhaps unavoidable in the nature of things. The tables again from which the maps were filled in are not all equally explicit and complete, or strictly comparable with each other. The population of each county is, of course, based on the census returns of 1871, which is to be regretted, seeing that the census of 1881 had actually been taken some months before this portion of the "Statistical Atlas" was published. It is a pity also that in the case of England and Wales the table of marriages, births, and deaths is for 1879, while the corresponding table for Ireland and Scotland is for 1880.

Notwithstanding these defects, this sanitary atlas cannot fail to be of use to all sanitarians and statisticians.

*Manual of Pathological Histology.* By CORNIL and RANVIER. Second Edition. Re-edited and Enlarged. Translated, with the approval of the Authors, by A. M. HART. Vol. I.—General Pathological Histology—Lesions of the Elements and Tissues. London: Smith, Elder, & Co. 1882. 8vo. Pp. 648.

It is with the most sincere pleasure that we welcome an English translation of this most valuable work. From the date of the appearance of the first edition it has occupied the highest rank in scientific medical literature—a position which it well deserved, not only in consequence of the great fulness and accuracy of its matter, but from the vast amount of original research which was apparent in every page. The present edition has been entirely recast and in many parts altogether re-written, while the general plan of the first edition is still maintained.

In 1869 the authors had not satisfied themselves of the occurrence of diapedesis of corpuscles in the vessels of an inflamed part. Now they, in common with everyone, admit the phenomenon, but they are not prepared to attribute to the emigrated corpuscles the important part in all pathological processes assigned to them by

Cohnheim. Both in the chapter on inflammation and throughout the work we find everywhere the fixed cells of the tissue made to take the chief share in proliferative and neoplastic processes. Still we think it is scarcely fair to say that Cohnheim explains all inflammation by diapedesis. He explains diapedesis as he does the other phenomena of inflammation, by a change in the molecular condition of the walls of the blood-vessels.

We do not know any work where a more useful description of tumours is to be found than in the one before us. The descriptions are short but sufficiently full for all practical purposes. The classification is in some respects peculiar, the carcinomata and tubercle being classed as connective-tissue growths.

The sections on the morbid conditions of the nervous system have received very large additions.

Of the translation we can speak in terms of the highest praise. It is faithful and accurate, and at the same time it is graceful, readable English. Some changes in the arrangement of the paragraphs have been made, and several valuable notes have been added to the text. The volume is also enriched by a copious index. The figures, of which there are 281, are printed from the blocks of the original French edition.

We feel sure that this work will enjoy among English readers the same well-merited popularity it has experienced abroad.

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#### SPASM OF MUSCLES OF THE NECK.

IN a case of this kind, in the Massachusetts General Hospital, which had resisted all the ordinary forms of treatment, it was resolved, at the suggestion of Dr. A. T. Cabot, to try the effects of fixation in a plaster bandage in the manner described by Delore in the *Gazette Hebdomadaire* for March 22, 1878. The good effect of this apparatus in tonic spasm of the muscles of the neck encouraged the hope that it would be equally efficacious in controlling the clonic spasms of this patient. The head was accordingly held with the chin pointed somewhat away from the side towards which it tended to be drawn, and the head and shoulders were then enveloped in a plaster bandage. No inconvenience was experienced from wearing the casque after the first few days. On the contrary the patient expressed intense relief from the total cessation of the muscular twitchings which were now rendered impossible. This apparatus was worn for eight weeks, the patient resuming his work at long hours without experiencing any return of his trouble.—*Boston Med. and Surg. Journ.*, April 27, 1882.

**PART III.**  
**MEDICAL MISCELLANY.**

*Reports, Transactions, and Scientific Intelligence.*

**PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.**

**FORTY-FOURTH ANNUAL SESSION.**

JOHN A. BYRNE, M.B., President.  
WILLIAM ROE, M.D., Honorary Secretary.

*Saturday, May 6, 1882.*

**DR. J. A. BYRNE, President, in the Chair.**

*Interstitial Fibro-myoma.*

DR. MORE MADDEN exhibited a very large interstitial fibro-myomatous tumour. He said: This case is of interest from the unusual situation of the tumour removed and the recovery of the patient under most untoward circumstances. She was an unmarried woman aged thirty-eight, who until the day of her admission into the Mater Misericordiæ Hospital, was able to follow her duties as a cook in a large hotel. For the previous two years she had been complaining of continual pain in the back and sense of pelvic weight, debility, leucorrhœa, and slight menorrhagia. These symptoms had gradually increased, but at no time was the menorrhagia very urgent, the changes merely lasting five or six days, and returning every three weeks; nor was there any hæmorrhagic discharge in the interval. On admission her chief suffering was from distressing dysuria—so great that she had been obliged for some time to visit a medical practitioner every day to have a catheter passed. She also suffered from frequently-repeated and generally futile calls to defecation. She had in addition to tenesmus slight prolapsus ani. Her feet and legs were œdematous, and she complained of great pain along the course of the left sciatic nerve.

The vagina was small and the hymen unruptured. On recto-vaginal examination the uterus was apparently completely retroflexed, the hollow of the sacrum being occupied by a large globular tumour extending

THE BOSTON  
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MEDICAL  
OBSERVATION.

up as high as the finger could reach and pressing downwards into Douglas's space. On examination with the sound, which passed in upwards of six inches anteriorly, it was evident that the double compression of the rectum and neck of the bladder were caused by a uterine tumour. To discover the position of this growth the cervix was packed with five sea-tangle tents. On the removal of these next morning the uterine cavity was fully laid open—I may here say that I had the valuable assistance of my colleagues in the hospital and of our President, Dr. Byrne—and as the tumour was interstitial, it was necessary to dissect it out from the posterior wall, in which it was situated, and where it had developed outwards, so as to have become in great measure subperitoneal, the posterior surface of the growth being merely covered by a thin capsule of the uterine structure, to which the peritoneal investment was, of course, adherent superiorly. In the separation of the tumour, which was as large as the foetal head at the seventh month, the cervical tissue, which had become disorganised by the pressure of the morbid growth, and was, as usual in such cases, extremely soft and friable, was unavoidably lacerated. This rent extended downwards and backwards through the outstretched roof of the posterior vaginal *cul-de-sac*, and left a wide opening into the abdominal cavity. As soon as the tumour now shown, which, as may be seen, was as large as the foetal head at the seventh month, was extricated, which had to be effected by the midwifery forceps, a large coil of intestines came down, filling the vagina. These were immediately returned, and the patient being then in such a condition of collapse, that no attempt could be made to close the laceration by sutures; it was merely plugged with a large sponge, so as to prevent for the moment any further prolapse of the intestines. A drachm of ether was injected hypodermically, and a little brandy and tincture of opium thrown into the rectum. Her pulse, which had been almost imperceptible, became a little stronger, and she was removed to bed and there surrounded with hot jars, &c., with the faintest hope of reaction. This, however, took place, and a couple of hours later her pulse was fairly recognisable, and her aspect improved.

On the second day severe metro-peritonitis set in, and for seven or eight days afterwards her life hung in the balance. It is needless here to dwell on the treatment pursued, which consisted mainly of opium and small doses of mercury, hydrocyanic acid draughts, &c., with the usual local applications—namely, leeching on two occasions, and continual use of fomentations or anodyne poultices to the abdomen, together with warm antiseptic vaginal injections. The vagina was plugged with sponges wrung out of weak carbolic solution. The daily changes of these were effected under carbolic spray, an atmosphere of which was maintained about her. For some days she suffered from incessant retching and hiccough, which were controlled by hydrocyanic acid and ice.

By the mouth she was only allowed iced champagne in very homœopathic doses, her nourishment for ten days being enemata of beef extract with a little brandy and arrowroot. It is unnecessary to follow the daily notes of the case further than to say that after the subsidence of the peritonitis, from which she was not free for many days, it was found requisite to continue the vaginal plugging for another week, when sufficient adhesion was formed to allow its discontinuance. After the operation her bowels were kept confined for as long as possible. At the end of three weeks she was able to sit up, and a week later was sent to the Convalescent Home at Stillorgan, whence she returned to her former occupation and is now again employed at the hotel from which she was sent to the hospital.

**THE PRESIDENT.**—What rendered the case more remarkable was the possibility of restoring the bit of omentum. The case looked extremely bad, and the symptoms were so urgent that there was nothing for it but to operate. The case, however, illustrates in a remarkable manner the recuperative powers of nature. Either by the pressure of the tumour or by the result of the operation a communication was made between the vagina and the peritoneal cavity, notwithstanding which the woman recovered. Not only was there a serious wound in the uterus, which had to be made to remove the tumour, but we had the formidable complication of rupture of the peritoneum and displacement of the omentum. The case affords encouragement to undertake operations in many cases, the circumstances of which might otherwise deter us; but nothing could have been more skilful than the performance of the operation; and what occurred was no more than one of the accidents that may happen in all serious operations. I for one did not think the woman would recover. I wish to ask Dr. Madden what subsequent treatment was adopted?

**DR. MORE MADDEN.**—The patient was put on grain doses of opium and minute doses of gray powder. The vomiting was relieved by hydrocyanic acid, and she was kept alive by nutritive enemata.

**THE PRESIDENT.**—I remember bringing before the Society two cases of ruptured uterus, from which the patients recovered under the use of very large doses of opium and moderate stimulation.

#### *Exhibition of Specimens.*

**DR. HENRY.**—I have two specimens to show to the Society. The first is the tumour found in the child which was exhibited on this night month by Dr. Horne. The intestines ended in this tumour, a considerable part of which is muscular tissue; and the mass represents the kidneys, the rectum, the lower intestine, the bladder, and the genital organs, whether male or female. There was no opening traced from the tumour, which was a closed sac with an intestinal ending, and was filled with a

yellowish fluid something like bile. There were no traces of kidneys, ureter, bladder, or lower intestine. There are two fleshy masses at the lower sides of it. There was nothing else wrong with the child, all the other organs, including lungs and heart, being perfect. The two other specimens—which I have been asked by Dr. Atthill to show—are ovarian cysts. One of them was removed from a patient on the 3rd of last April. About seven months previously the patient first noticed the tumour, which was about the size of an orange, and she began to suffer great pain. On examination of the tumour, when she presented herself at the hospital, it was found to be very solid and fixed, and the case was looked on as a most unfavourable one. We could scarcely move the tumour in the abdomen. It was unconnected with the uterus; but the rapidity of the growth, the general appearance of the patient, and the pain would have led anyone to believe that it was malignant. From the patient's sufferings it was thought desirable to give her a chance, and an operation was consequently performed. The tumour was found to be twisted three times round the pedicle. It was covered all over with dark greenish spots, and the walls were extremely pulpy, thickened, and very easily broken down, so that it was very hard to catch them with the forceps. The tumour was filled with a thick tenacious fluid of a darkish colour, which would have led one to suppose that it would soon have become gangrenous. There were one or two slight adhesions at the surface, and owing to this there was a great deal of serous fluid in the abdomen, and a drainage tube had to be used. About the sixth day the patient had a rise of temperature, and the abdomen became tympanitic, with extreme pain. The application of cold cloths over the abdomen brought the inflammation and the temperature down, but it rose again rapidly. Within three or four days afterwards she was attacked with pneumonia. She struggled through, and was allowed up on the twenty-second day; and at the end of five weeks was able to go out. The other specimen is an ovarian tumour which was removed last Wednesday, and the patient is now doing very well. She is an unmarried woman. The os was not more than the size of a pinhole; and it was impossible to get the sound in for the purpose of ascertaining whether the uterus was connected with the tumour or not. But the rapid growth of the tumour, and its extreme solidity since Christmas, caused much anxiety. The menses were becoming more frequent and also menorrhagic in character, pointing rather to the existence of a fibroid than to one of any other nature. It turned out, however, to be a pure ovarian cyst, and presented no difficulty of removal. The patient is going on very well up to the present.

*Discussion on Dr. Neville's paper.*

DR. MACAN.—When a paper is so exhaustive as the one Dr. Neville has brought before the Society, it must, I think, necessarily be hard to



discuss. Nor can there, in the present day, be any question that gravity has a very large share in determining the presentation. Indeed, the only point on which I would venture in the least to differ with Dr. Neville, is the relative power of gravity to the other forces that we know are in action. Thus it seems to me that it is during the earlier months of pregnancy, while the foetus is freely movable in the uterus, that the power of gravity should be most absolute, and yet it is in cases of miscarriage and premature labour that malpresentations are most common. Nor do I think it a satisfactory answer to this objection to say that in cases of premature delivery the presentation of the foetus during labour affords no presumption as to its position in utero before labour set in. The same arguments apply, with equal force, to cases of hydrops amnii, in which the foetus is unusually free to follow the influences of gravity, and yet malpresentations are common. I think, too, that the presentation in twin cases seems to lessen the importance of gravity; for, according to the statistics of Spiegelberg, the presentations in 1,138 cases of twins were:—

Both heads	-	-	in 558 cases =	49 per cent.
Head and breech	-	„ 361 „	=	31·7 „
Both breeches	-	„ 98 „	=	8·6 „
Head and transverse	-	„ 71 „	=	6·18 „
Breech and transverse	-	„ 46 „	=	4·14 „
Both transverse	-	„ 4 „	=	0·35 „

In other words, in over fifty per cent. of twin cases the presentations are not what they would be if gravity were the only force that determined the presentation. Those other forces I conceive to be chiefly the active and reflex movements of the foetus—the shape of the uterine cavity and the contraction of the uterine walls. The idea that the foetus makes any instinctive movements, in order to cause its head to present, is, I think, entirely abandoned. I myself look on the reflex movements as having a powerful effect in determining the head to present. For in any other position, such as breech, the feet of the foetus are in constant contact with the uterine walls, and this contact determines reflex movements, which will continue till the position is so changed that the feet are no longer in contact with the uterine walls. That reflex movements are very readily excited by touching the feet of the foetus may be verified in almost any case of turning; for by tickling the sole of the foot when it is drawn outside the vulvæ, if the child be alive, it will at once draw up its leg.

Again, it is by no means an uncommon thing for a head to change into a breech during the latter months of pregnancy. This change is not only not effected by gravity, but must be due to a force acting contrary to gravity, and absolutely stronger than it. Of course once the foetus comes to lie transversely in the uterus, with the head ever so little higher



than the breech, the rigid uterine contraction will have the effect of pushing the head up to the fundus and the breech down to the brim of the pelvis. Indeed in pluriparæ the foetus nearly always lies slightly transversely at the commencement of labour, with the head or breech in one or other iliac fossa. As the uterus contracts the transverse diameter becomes greatly diminished, and the head or breech is thereby brought over the brim.

The only other important factor in determining the presentation is, I think, the shape of the uterine cavity itself—which is usually pyriform. But we must not forget that this shape is largely determined by its surroundings, more especially the pressure exerted by the abdominal walls. When these are relaxed or over-distended, as in the case of hydrops amnii or twins, the cavity of the uterus no longer retains its pyriform shape, and you are liable to have a malpresentation. To this “shape accommodation” also rather than to gravity I would refer the frequency with which breech presentations are met with in cases of hydrocephalus.

Hence, I think, it is more than probable that there are several forces besides gravity which help to determine the presentation. It is also quite impossible in the present state of our knowledge to do anything more than roughly estimate the force of the twist acting through the centre of gravity and the centre of flotation, which is certainly very small, and may be infinitesimal, and therefore liable to be modified by very slight counteracting forces.

The PRESIDENT.—I concur to a great extent with the remarks of Dr. Macan; but in reference to the cases of hydrocephalic children which he has adduced as an argument against the gravitation theory I must observe that it has been shown that the contents of the hydrocephalic cranium are specifically lighter than those of the normal cranium. The hydrocephalic contents approximate closely to the nature of animal liquor amnii; and we know that in most of those cases—and it is a wise provision of nature—the head should not present. Very often, when it does, if the tissues be weakened you have rupture of the utero-vaginal septum. But in most hydrocephalic cases the head floats uppermost, which is rather in favour of the gravitation theory. The position of the foetus in utero is a matter which has attracted the attention of many observers. I think the most recent observations, particularly those of Mathews Duncan, go to strengthen the gravitation theory. At the same time I have no doubt myself that there is something more. I have very often examined women in the last months of pregnancy, and in most cases I have found the head downwards, lying on the pelvic brim; and I believe that when pregnancy is approaching its termination the foetus will assume a position with the head downwards if there be sufficient room at the pelvic brim. If there be narrowing the foetus will seek another position; but in the majority of cases, where the pelvis is well formed, and there is

no difficulty in the descent of the head, the foetus will assume a downward position, and the head will remain down during the last six or seven weeks of pregnancy. It is a question of extreme difficulty and of great interest to determine the factors which regulate the position assumed by the foetal head.

DR. CRANNY.—A case bearing on this subject came under my observation. It was that of a lady in her third confinement, who had a transverse presentation; and it was remarkable that in each of her two former pregnancies a similar occurrence had taken place. She had no deformity or narrowing of the brim, and no difficulty of delivery; her three children were large and healthy, and fully developed. On reflecting upon the case it struck me that the shape of the uterus had something to do with it.

DR. NEVILLE (in reply).—I read my paper rather hurriedly, but thought that in it I had sufficiently guarded myself against being interpreted as attaching too extreme an importance to the action which gravity has in favouring head-presentations. I treated of its action rather in detail, because as a factor in causation its influence is usually but vaguely defined or understood. Prior to the period when comparative fixation of the foetus becomes established no other factor can possibly, as it appears to me, be more potent than that of gravity. The need for “form-adjustment” is not yet present, and neither foetal movements nor uterine action are incessant, while the action of gravity must necessarily be so. Hence I think that we are justified in concluding that it is this gravity factor which mainly tends to keep the head downwards so long as the foetus is freely movable. The establishment of more or less fixation introduces a new element into the question, which results in giving a greater effect to other factors—form-adjustment, foetal movements, and uterine contractions. Dr. Macan has alluded to the comparative infrequency of head-presentations in premature labours, as detracting in some measure from the weight to be attached to gravity. This action of gravity is, no doubt, as I have shown in the paper, a rather weak one, but there is no doubt that head-presentations are more frequent before than during premature labours. The originally presenting head may become displaced during labour—the displacement being due partly to the great mobility and partly to the want of firmness of the foetus, which, moreover, is frequently dead in these cases. In cases of twins the conditions under which gravity normally acts—*e.g.*, the shape of the uterus—are altered, and the same remark applies also to cases of hydrops amnii. After the establishment of fixation the frequency of foetal changes of position shows plainly that gravity is no longer the dominant factor. I quite agree with Dr. Macan that foetal movements are here the active causes. The President has, I believe, quite properly explained the apparent contradiction involved in the frequent malpresentations of hydrocephalic children. Dr. Cranny’s very interesting case confirms what I have alluded to in the

paper as to the recurrence of transverse presentations in the labours of one woman seeming to show that they may be due to some cause inherent in the uterus itself. In conclusion, I would again point out that the great frequency of head-presentations must be held to depend not on any individual cause, but on the concurrent action of many causes.

*The Rational Treatment of Anterior and Posterior Displacements of the Uterus.* By A. V. MACAN, M.B., M.Ch., and M.A.O., Univ. Dubl.

THERE is probably no subject in the whole range of gynæcology about which so many and so conflicting opinions have been held as the right method of treating anterior and posterior displacements of the uterus. Thus some authorities, like Dr. West, hold that the displacement *per se* requires little or no treatment, provided we remove the complications. He says:—"The principle upon which I usually act in the management of these cases amounts pretty nearly to this—that, to the best of my power, I take care of the general symptoms, and leave the displacement to take care of itself."\* Others, of whom Dr. Graily Hewitt may perhaps be taken as a type, lay the greatest stress on the displacement, which they look on as the *fons et origo* of all the accompanying symptoms; while recently a third theory has been put forward by Professor B. S. Schultze, of Jena, that in the large majority of anterior displacements the chief indication is to treat the complication, while in most cases of posterior displacement the primary indication is to treat the displacement. When I first undertook to write this paper I had intended to examine the whole question, but I soon found that the subject was far too large to be satisfactorily treated within the limits of an ordinary paper, and I intend therefore to confine my observations this evening to one or two points, the elucidation of which seems to me to be absolutely necessary before there can be anything like a rational treatment of uterine displacements.

Before entering into any inquiry as to the best way of treating displacements of the uterus, we are naturally first called on to determine what the normal position of the uterus is. For without settling what is normal, we have no standard by which to judge or determine what is abnormal. What are, then, the views most generally held as to the normal position of the uterus? Thomas says the normal position of the uterus "is one of slight anteversion, the axis of the body corresponding with that of the superior strait, which is a line running from the umbilicus, or a little above it, to the coccyx. . . . The degree of this forward inclination may be so increased by slight causes as to constitute a morbid state;"<sup>b</sup> and he further looks on all flexions as pathological. Dr. Barnes says:—"Assuming, however, as we may, that the

\* Diseases of Women. 4th Ed., p. 213.

<sup>b</sup> Thomas. Diseases of Women. 4th Ed., p. 359.

uterus is suspended in the upper part of the pelvic cavity, so that its fundus is on a level with the plane of the pelvic brim, that its inclination coincides nearly with the axis of the pelvic inlet, and that it floats between bladder and rectum, about midway between the symphysis pubis and the sacrum, but somewhat nearer to the symphysis, we shall have a standard position sufficiently defined for clinical purposes."<sup>a</sup> A slight degree of ante flexion must, he thinks, be considered normal, but he is disposed to infer "that ante flexion rarely fails to entail trouble."<sup>b</sup> Graily Hewitt holds that normally the uterine canal "passes at first upwards in the direction of the pelvic axis, but higher up there is a slight inclination forwards;"<sup>c</sup> and Dr. Meadows believes that the uterine canal is "straight through its course, its axis being identical with that of the pelvic brim or inlet."<sup>d</sup> They all allow that the uterus has a certain degree of mobility, and some think a slight degree of ante flexion is normal; but they agree that if, in making a vaginal examination, the fundus can plainly be felt in the anterior *cul-de-sac*, this constitutes pathological ante flexion or version. But, for all practical purposes, we may take the diagram I now show you (Fig. 1), which is copied from

Fig. 1. Normal Position of the Uterus (Graily Hewitt).

<sup>a</sup> Barnes. *Diseases of Women*. 1st Ed., p. 669.

<sup>b</sup> *Ib.*, p. 681.

<sup>c</sup> Graily Hewitt. *Diseases of Women*. 3rd Ed., p. 68.

<sup>d</sup> *Lancet*. 1868. Vol. II., p. 71.

Graily Hewitt's work on "Diseases of Women" (p. 55), as representing the ordinarily received opinion as to the normal position of the uterus—viz., that the canal of the cervix and the cavity of the uterus form very nearly a straight line, and that the position of the axis of the uterus coincides nearly with a line drawn from the sacrovertebral angle to the anus; the uterus itself being thus placed very nearly perpendicularly in the pelvis—the exact amount of normal mobility of the fundus being estimated at  $1\frac{1}{2}$  inches.

Such was the position of affairs when Schultze first put forward his views as to the normal position of the uterus, and as to the proper treatment of anterior and posterior displacements.<sup>a</sup> He holds that the normal position of the uterus, when the bladder is empty, is one of anteflexion—the anterior wall of the uterus being nearly parallel to the anterior vaginal wall. The fundus lies supported on the empty bladder, while the cervix is suspended from the second bone of the sacrum by the folds of Douglas, which contain some unstriped muscular fibres, named by Luschka the *musculi retractores uteri*. As the bladder becomes filled, it gradually lifts the fundus upwards and backwards; and as it is emptied, the fundus follows it downwards and forwards—this being, in the upright position, in part due to the action of gravity, but chiefly to the intra-abdominal pressure, acting on the posterior surface of the uterus. Normally, therefore, the uterus is in a constant state of motion, the fundus rising and falling with the varying amount of urine in the bladder. Professor Schultze<sup>b</sup> has measured the angle through which the fundus moves during the emptying of a full bladder, and found it  $48^\circ$ . We cannot, therefore, speak of any one position of the uterus as the normal one. Indeed when the uterus, from any cause, becomes fixed and unable to follow the changing shape of bladder, this is a pathological condition. The most frequent cause for pathological anteflexion is, according to Schultze, a shortening of Douglas's folds from inflammation, by which the cervix is drawn upwards towards the second bone of the sacrum. This inflammation of Douglas's folds is called by him *parametritis posterior*.

These views, which at first met with great opposition, have gradually been adopted by most modern gynaecologists. Thus Fritsch<sup>c</sup> takes them with some slight modification as the basis of his work on "Uterine Displacements." He thinks that the normal position of the uterus when the bladder is empty is one of well-marked anteflexion, the cervix making with the body an angle of nearly  $90^\circ$ , and that the healthy uterus can be flexed backwards and forwards with the greatest ease—rigidity being pathological and due to chronic metritis. The accompanying plate (Fig. 2)

<sup>a</sup> Volkmann's Sammlung. Nos. 50 and 176.

<sup>b</sup> Centralbl. f. Gynaek. 1878. P. 241.

<sup>c</sup> Die Lageveränderungen der Gebärmutter, Vol. III. of Billroth's Handbuch der Frauenkrankheiten. Stuttgart: Ferdinand Enke. 1881.

is copied from his book,\* and shows this position very clearly. As the bladder becomes filled the angle of flexion gradually decreases, and the

Fig. 2. Normal Position of the Uterus (Fritch).

anterior wall of the vagina lengthens. As the bladder is emptied the fundus descends again till it comes nearly to rest on the symphysis pubis. He also lays great stress on the change in the position of the uterus according to the position in which we examine the woman. He does not think, however, that the uterus is so much suspended from the second bone of the sacrum by the folds of Douglas as supported from below by the muscular tube of the vagina and by the floor of the pelvis. If any of the ligaments become shortened or rigid, this makes the position of the uterus a fixed one, and is pathological. Thus it is equally pathological whether the uterus be prolapsed, or retroflexed, or so fixed that it is unable to perform its proper physiological changes of position. If the angle of flexion be less than a right angle, or if neither the distension of the bladder nor the congestion that accompanies menstruation be able to lessen the amount of flexion, then the condition is a pathological one. Thus acute ante flexion is undoubtedly a pathological condition, but it need not necessarily be accompanied by symptoms, any more than crooked legs, which are also pathological, need give rise to symptoms. He agrees with Schultze that this pathological ante flexion is frequently due to shortening of Douglas's folds, but does not think that this shortening is often due to parametritis, but is either congenital or

\* Loc. cit. P. 7.

due to inflammation of the peritoneum or perimetritis, and not to inflammation of the cellular tissue or parametritis.

Now, the accuracy of this statement, that the normal position of the uterus when the bladder is empty is one of anteflexion at an angle of nearly  $90^{\circ}$ , can be readily verified by anyone who will take the trouble of putting it to the test; but the examination must be made bimanually, the patient lying in the dorsal position, and the bladder having been previously emptied, if necessary with the catheter. Indeed, the bimanual examination, to be of any use, must always be made when the bladder is empty. For when the bladder is full it presses the fundus upwards and backwards, and makes it impossible to get it between the two hands; and even when there is only a small quantity of urine in the bladder pressure over it will cause the patient to contract the abdominal muscles, and thus equally prevent us feeling the fundus. It must also be obvious that there can be no possible chance of unanimity as to the normal position of the uterus in any individual case if one person examines in the dorsal position, another in Sims'; one when the bladder is full, another when it is empty. Nor, when we take into account the extreme mobility of the normal uterus, can the sound be looked on as affording anything more than an approximate estimate of its true position.

If, then, the normal position of the uterus when the bladder is empty be one of anteflexion, it cannot be a matter for wonder that most women who suffer from dysmenorrhœa are also found to have anteflexion, for this is only saying that in the large majority of women the uterus is in its normal position. By this, however, I do not for a moment wish to say that there is no such thing as pathological anteflexion or mechanical dysmenorrhœa. The existence of the latter is proved by those cases, rare it is true, where the dysmenorrhœa is cured by passing the sound shortly before a menstrual period; and the former exists whenever the angle of flexion is less than  $90^{\circ}$ , or is unaffected by the varying size of the bladder, or by the congestion that accompanies menstruation. It also naturally follows that but few cases of anteflexion require mechanical treatment, and if anteflexion be accompanied by symptoms, such as dysmenorrhœa and sterility, these are generally due to the complications present, and not to the mere displacement.

Furthermore, it is acknowledged at the present day by most gynæcologists that no mere vaginal pessary, such as Thomas's or Graily Hewitt's, has any power to cure an anteflexion, whatever effect it may have on an anteversion. If, therefore, we come to the conclusion that an anteflexion requires mechanical treatment, we must have recourse either to dilatation or the use of a stem-pessary. In the large majority of cases, however, the symptoms will disappear if the complications are cured, even though the uterus remains acutely anteflexed. Indeed, if the pressure of the anteflexed fundus on the neck of the bladder be the cause of vesical



irritation, we have not mended matters much by substituting the pressure of a Thomas's or Graily Hewitt's pessary for that of the fundus.

So much for anterior displacements. Retroflexion and retroversion need not delay us so long; for I take it there is no question as to their both being pathological conditions which require prompt mechanical treatment. Their diagnosis by the bimanual method, or by the sound, is generally free from difficulty, but the diagnosis of the mere displacement is of little value, as to prognosis and treatment, compared to a thorough appreciation of all the complications that are present.

Now this can most readily be obtained by the bimanual method of examination, which, for this reason alone, should always be preferred to the sound. But its advantages will be even more apparent when we come to consider the treatment. This very generally consists in the introduction of a Hodge's so-called "lever" pessary. I think this term "lever pessary" has contributed more than anything else to confuse the whole subject of the treatment of posterior uterine displacements. For the idea which the term is meant to convey, and does convey, is that the anterior arm of the pessary moves upwards and downwards with the motion imparted to the anterior vaginal wall by the diaphragm, causing the whole instrument to rotate, as it were, on a pivot, so that as the anterior arm descends, the posterior one moves upwards and forwards into the posterior *cul-de-sac*, and so tends constantly to replace the retroflexed fundus.\*

At the present day hardly anyone claims any "lever" action for Hodge's pessary, but still the evil effects of the "lever" theory can be traced through the whole mechanical treatment of posterior uterine displacement. Thus the mode of introducing the pessary corresponded to this theory. If the uterus be retroflexed a sound is passed into the fundus with the concavity backwards. The sound is then turned round so as to raise the fundus out of Douglas's space, and the pessary is introduced either over the sound or after its removal. The posterior arm of the pessary is therefore supposed to press the fundus upwards and forwards, and thus restore the uterus to its normal position, and then keep it there. This is well illustrated by the accompanying plate (Fig. 3), copied from Dr. Barnes' book on the "Diseases of Women" (p. 242), the dotted line in which shows also the supposed lever action of the pessary.

The uterus is here supposed to be in its normal position, and the fundus is represented as resting on, and being kept in its position by, the posterior arm of the Hodge's pessary. It is obvious to everyone that the intra-abdominal pressure must here strike on the anterior surface of the fundus, and thus tend constantly to force the latter downwards and backwards against the pessary. Under these conditions one of three things is almost certain to happen—1st, Either the fundus presses so hard on the posterior arm of the pessary as to drive the whole instrument out of the vagina;

\* Barnes. Diseases of Women. P. 242.



or, 2nd, the fundus slips off to one side of the round posterior arm of the pessary, and in so doing pushes this portion into the opposite side of the pelvis, thus rotating the instrument on its long axis; or, 3rd, if the instrument retains its place, and is neither driven downwards out of the vagina, nor caused to rotate on its long axis within the pelvis, it causes so much pain by pressing against the tender fundus that the patient cannot bear to wear it.



Fig. 3. Hodge's Pessary *in situ*. "Lever" action (Barnes).<sup>a</sup>

Various forms of pessaries have, therefore, been invented to prevent each of these accidents, such as Graily Hewitt's,<sup>b</sup> which has a projection at its lower end which protrudes between the vulvæ, and thus prevents rotation of the pessary on its long axis; or Gervis',<sup>c</sup> in which the upper portion is broad and concave upwards, so as to receive the fundus, and prevent it falling off sideways; or Thomas's,<sup>d</sup> the upper part of which is

<sup>a</sup> A very similar plate (omitting the lever action) is given in Graily Hewitt's book, p. 242, and a still more misleading one in Edis on the Diseases of Women, p. 54.

<sup>b</sup> *Loc. cit.* P. 243.

<sup>c</sup> *Obst. Trans.* Vol. XXIII., p. 34.

<sup>d</sup> *Diseases of Women.* P. 419.

also broad, thick, and concave, with the same object, and also in order, by increasing the surface of support, to prevent the instrument causing pain by pressing against the tender fundus, while its lower branch is pointed, so that it may resist the tendency to rotation. Greenhalgh's pessary is constructed with an elastic cushion at its upper end, to prevent any pain or pressure against the fundus. Various other spring pessaries have been invented by other gynæcologists with the same objects, one of which is now on the table, and a somewhat similar one was lately exhibited to the members of this Society by an eminent American practitioner, Dr. Beverley Cole.\* Indeed so much are these supposed defects of Hodge's pessary felt, that almost every gynæcologist has introduced a special modification of his own.

Now, if we compare this plate (Fig. 3) with the one representing the normal position of the uterus according to Fritsch (Fig. 2), two obvious faults are at once apparent in this method of treatment—first, the uterus has never been replaced at all; and, second, the pessary is supposed to keep the uterus in its place by direct pressure on the fundus.

Here again it is Professor Schultze to whom we are indebted for having exposed these faults, and, at the same time, demonstrated the true principle on which posterior displacements of the uterus should be treated. This, shortly expressed, consists in first replacing the uterus in a position of exaggerated anteversion, and then fixing *the cervix* posteriorly by means of a pessary. The replacement of the uterus, he maintains, should always be effected by the bimanual method, and not by the use of the sound. In this point Professor Fritsch does not agree with him, as he contends that the essential point is to replace the uterus thoroughly, the exact method adopted being comparatively immaterial. The reposition of the retroflexed or retroverted uterus by the bimanual method illustrates, however, so fully the whole theory of this treatment, that I have had Professor Schultze's plates enlarged, and by their aid I hope to be able to make my description of the method intelligible to all present.

The bladder being emptied, and the woman placed in the dorsal position, two fingers of the right or left hand (the left is the one represented in the figure) are inserted into the vagina (Fig. 4). With them steady pressure is made against the fundus, which is situated in the posterior *cul-de-sac* (where the star is placed in the diagram), so as to raise it upwards to one or other side of the sacrovertebral angle. Pressure is then made by the fingers of the other hand over the abdomen, a little above the umbilicus, so as to force the fundus downwards and forwards into a position of exaggerated anteversion (Fig. 5). When in this position the intra-abdominal pressure falls on the posterior surface of the fundus, and presses it against the symphysis pubis. If we can now, by

\* *Obst. Trans.* Vol. XXIII, p. 238.

means of a pessary, prevent the cervix sinking downwards and forwards, the case is cured.

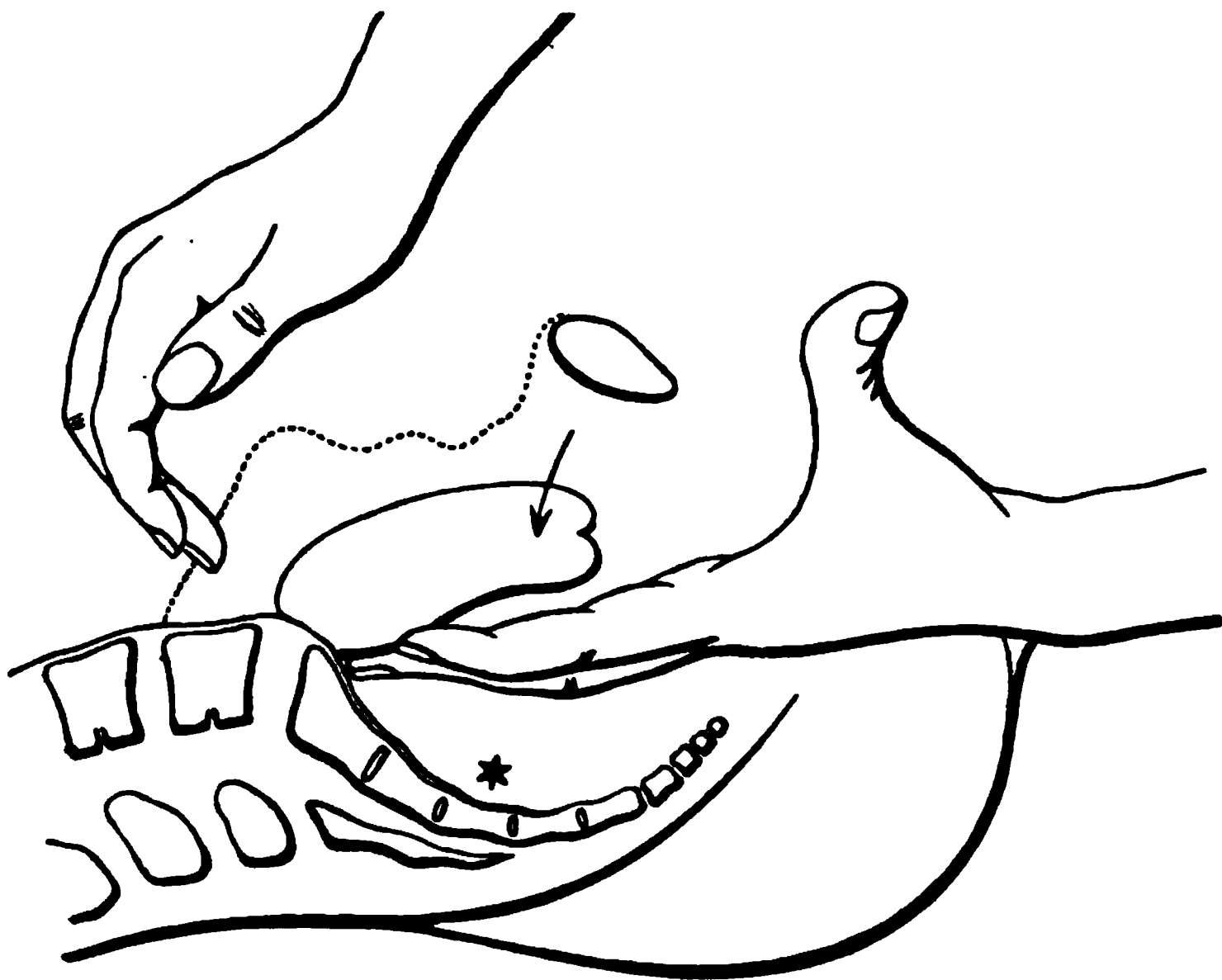


Fig. 4. Bimanual Reposition of the Uterus. First movement (Schultze).

With this latter object Professor Schultze has invented a figure of 8 pessary, one of which I now show you. When the instrument is *in situ* the smaller ring of the 8 lies in the posterior *cul-de-sac*, and into it is inserted the cervix uteri. Any tendency the latter may have to pass downwards and forwards is impossible as long as it remains within the ring of the pessary. When the cervix is very short he uses another form of pessary, but whatever pessary is introduced the object of it is to fix the cervix posteriorly, and not to press directly on the displaced fundus.

Are we, then, to discard altogether the use of Hodge's pessary? Far from it; for in a large number of cases, having once placed the uterus in a position of exaggerated anteversion, we can fix the cervix posteriorly by means of Hodge's pessary quite as effectually as by one of Schultze's. In order to do this we must choose one long enough to put the posterior *cul-de-sac* on the stretch, and so prevent the cervix passing downwards and forwards. The anterior end of the pessary should just be able to move freely behind the pubes, and, making a bimanual examination, the bladder being empty, we should be able to feel the fundus lying in the anterior *cul-de-sac*, the top of it almost touching the pubes (Fig. 5). The longer the posterior *cul-de-sac* the further backward we can fix the cervix, and consequently the more stable will be the anteversion. Hence,

also, the pessary should never distend the vagina transversely, as this would naturally tend to shorten the vagina. Indeed, it is in cases of very short vagina and shallow posterior *cul-de-sac* that we will most frequently fail in thus effecting a cure. Whether in such cases a Schultze's figure of 8 pessary will succeed after a Hodge's has failed, I am unable to say from my own experience.



Fig. 5. Bimanual Reposition of the Uterus. Second movement (Schultze).

As to version, the treatment of retroversion differs in no way from that of retroflexion, except that we will probably also have to treat the chronic metritis on which the non-flexibility of the uterus chiefly depends.

The following is a brief statement of the conclusions at which I have arrived:—

1. The normal position of the uterus when the bladder is empty is one of ante flexion. Hence mechanical treatment of ante flexion is rarely called for, and if symptoms be present our efforts should generally be directed to the cure of the complications.

2. In retroflexions or versions the primary indication is to treat the

displacement. In order to do this effectually we should place the uterus in a position of exaggerated anteversion, and then fix the cervix posteriorly by a pessary.

3. Hodge's pessary, or any other pessary used for the cure of retroflexion, when uncomplicated with adhesions, should act by fixing the cervix posteriorly, and not by pressing against the fundus and elevating it.

4. Versions are, so far, more serious than flexions, in that they are caused by rigidity of the uterine parenchyma, which is generally due to chronic metritis.

5. To make the results of the bimanual examination of any use for comparison with the results of other observers it must be made in the dorsal position, the bladder having been previously emptied.

6. A great deal of the confusion that exists about the treatment of anterior and posterior displacements originates in its being taken for granted that any treatment that is found suited to an anterior displacement must be equally suited to a posterior one, and *vice versa*.

I have not ventured in this paper to enter on the consideration of the treatment of posterior displacements when complicated with fixation of the fundus, as I feel I have already trespassed more than enough on your time and patience, but I hope to be able to bring this part of the subject at some future time under the notice of the Society.

#### TREATMENT OF VAGINITIS.

For the last two years M. Gouguenheim has treated acute blennorrhagic vaginitis at the Lourcine by a method which has given him most favourable results, and which is exceedingly simple. It consists in placing in the vagina, with the aid of a small speculum, bags of variable size made of coarse muslin, and nearly filled with a powder composed of a mixture of nine parts of alum and one part of tannic acid. The bag is left *in situ* from twelve to eighteen hours, and is then withdrawn, while the patient is in a bath, by means of a cord attached to it, as to an ordinary plug. After the withdrawal of the bag, the vagina is syringed out with warm water to facilitate the removal of the membrane that has formed. After a few repetitions of this mode of treatment, twice a week, the discharge ceases. Dr. Gouguenheim says he has borrowed the idea of these bags from the practice of Madame Lachapelle.—*Jour. de Méd. de Paris*, p. 474. [The late Dr. Fleetwood Churchill, of Dublin, was in the habit of using, in cases of slight prolapse, instead of a pessary, a bag of coarse muslin filled with bruised galls, oak bark, matico, &c.—*Vide* "Diseases of Women," 6th Ed., p. 420.—ED. PERISCOPE.]

## PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—WILLIAM STOKES, M.D., F.R.C.S.I.

Secretary—E. H. BENNETT, M.D.

*Melanotic Sarcoma of the Right Index Finger.*—DR. WHEELER said: This is the right index finger of a woman who was admitted into the City of Dublin Hospital under my care last August, suffering from melanotic sarcoma. About two years before she had observed a growth on the last phalanx, and this gradually increased, with a good deal of pain and occasional hæmorrhage. She was fifty years of age. The growth at the time of its removal measured a little more than seven inches circumferentially, and over four inches lengthwise, but it does not look so large now. I removed the tumour at the metacarpo-phalangeal articulation. She has made a good recovery, and there is no reason, I believe, to fear a return of the disease. It originated in the subcutaneous tissue, and then invaded the other tissues, and also the bone and the periosteum. A microscopic examination revealed spindle-shaped and oval cells, and very well marked pigmentation. The blood-vessels were numerous and in immediate contact with the cell walls, and showed some secondary changes which are not uncommon; and in parts of the tumour there was fatty degeneration and softening. I have seen this disease occur in the eye, the heel, and in other parts of the body, but never on the hand, except in one instance on the thumb. There was no glandular trouble.—January 1, 1882.

*Ovarian Dermoid Cyst.*—DR. WALTER SMITH said: This specimen of ovarian dermoid tumour came from a patient in the Adelaide Hospital some months ago. The patient, a girl of seventeen years of age came to the hospital from the country for advice respecting an abdominal swelling, which had suddenly increased rapidly. She was pale and wasted. No operation could be attempted, as neither she nor her relatives would hear of one, and she gradually died of exhaustion and peritonitis, after about three weeks from the day of her admission. Twelve hours before death she had a series of attacks exhibiting all the phenomena of a true ague fit, and it was ascertained that her parents had both suffered from malaria whilst in America before her birth. After a fall which

she met with in one of the wards about ten days before this she got retention of urine and fæces, with agonising pains in the abdomen and legs, upon which paralysis with bedsores supervened. The catheter had to be passed night and morning; and, although she could now rest only in a sitting-up posture with her hands clasped round her drawn-up knees, owing to rapid increase in the size of the tumour and urgent dyspnœa, the hypodermic injection of morphia could not be put aside without increasing the prostration, pain, and vomiting of which she was now the constant victim. At the time of death the entire thickness of skin over the sacrum and some way up the back was gangrenous, the bone being denuded in one spot. On opening the abdomen it was found to be full of a semi-purulent fluid, which was exuding from an opening in the sacculated part of this tumour, which still contained about one and a half pints of the same fluid; recent peritonitis was everywhere evident, and the tumour had contracted some slight adhesions; the bladder was exceedingly small, its walls about three-fourths of an inch thick, and the urethra hardly discernible; the rectum was quite flattened against the brim of the true pelvis, which this tumour entirely filled—its size, in distended condition prior to rupture, being not less than that of a medium-sized gourd. On the most cursory examination the tumour is seen to present a multiplicity of tissues, all referable to the connective tissue group. It is loculated in its structure. Some of the loculi are filled with soft tallowy material, some with soft fat, and some with nodules of cartilage, in a few of which are spicula of bone. On turning up the greasy masses in some of the cells fine hairs could be seen interspersed with the greasy material. Mr. Abraham made a microscopic examination of a portion of the tumour. The sections taken from the walls of one of the larger sebaceous accumulations showed these appearances. The outer wall of the cyst was composed of true skin, and the different layers of the epidermis could be clearly seen. The small hairs are well defined, and the imperfectly formed hair follicles are provided with sebaceous glands. Examination of sections of the spinal cord showed it to be slightly hyperæmic, but nothing more. From the mother's statement it appears that the tumour existed for many years without causing any trouble, which first began on the appearance of menstruation the year before. It increased rapidly after this, and caused dyspnœa on exertion.—  
*January 14, 1882.*

*Pyæmia following Caries of the Petrous Bone.*—DR. WALTER SMITH said: These are the lungs, cerebellum, and left petrous bone of a young man, aged twenty-one, who died on Sunday last in Sir Patrick Dun's Hospital. I give the case from notes taken for me by Mr. Shackleton. The young man had been employed in bottle works, and had enjoyed perfectly good health up to the 23rd of December, 1881. On that day, without

any apparent cause, he commenced to complain of pain of a very severe character in the left ear and the left side of the head. The next day he had repeated and severe rigors. This was succeeded for twenty-four hours by sweating and vomiting. After several days, finding himself no better, he came to the hospital and his state then was as follows:—He looked very ill, his complexion was pallid, his lips were blue, and his eyes heavy-looking. He answered questions readily. He was sent to the hospital as a case of continued fever. His tongue was dry, thickly furred in the centre, slightly fissured, and brown. Shortly after his admission to the hospital he had a distinct and prolonged rigor. The action of the heart being irregular and intermittent, stimulants were administered. The patient had a short cough and slight dyspnoea. Nothing abnormal could be discovered in the lungs, but from the first day he spat up a sputum of a chocolate brown colour. This was proved by the *post mortem* examination to have proceeded from embolic abscesses in the deeper parts of the lung. Very soon after his admission to hospital his temperature curve exhibited the most remarkable oscillations. These followed no regular law or order. On one occasion, within twelve hours, the temperature fluctuated nine degrees. On another occasion, without any evident cause, the temperature went up to  $107.4^{\circ}$  at eight o'clock in the evening. On another it fell to  $96.8^{\circ}$ . Observations of his temperature were made several times in the twenty-four hours. There was a great discrepancy between the three symptoms which are usually correlated in ordinary fever—namely, respiration, pulse, and temperature. The records of his pulse show the greatest differences as to rapidity. At one time it was quickest in the morning, at another in the evening. Frequently the evening respirations were double the quickness of those of the morning; at other times the morning respirations were more rapid than those of the evening. His appetite was good when he was admitted, but he was very thirsty. On two or three occasions he vomited after the administration of medicine. He had a troublesome diarrhoea, the stools being of various colours—sometimes ashy gray, sometimes light yellow. He was leeches under the left mastoid process. There was then no tenderness or swelling there, although there had been earlier in the case. No paralytic symptoms were observed until a day or two before his death, when a transient strabismus was noticed. On looking now at the condition of the petrous bone it is marvellous how the facial nerve escaped. He had at no time delirium, or any other marked mental symptom, and retained consciousness until a very short time before his death. On the 9th of January, for the first time, the physical signs of pneumonia of the right lung were developed. These became more and more intense every day, and included agonising pain in the right side and dyspnoea. Before that happened it was thought that there was serious intercranial mischief



Mr. Arthur Benson examined his eyes and found both normal. There was external otitis of the left ear, but no perforation of the membrana tympani. An attempt was made to inflate the tympanum, according to Politzer's method, but it caused such distress that it had to be abandoned. Afterwards the case went on from bad to worse. He became weaker, had greater dyspnoea, and died on the 5th of January. I made a *post mortem* a few hours after death, with the aid of Dr. Thomas Little. In the abdomen there was nothing worthy of remark, save that the spleen was large, pulpy, and weighed ten and a half ounces. The left lung was contracted, and bound to the pericardium by adhesion. The right lung was universally adherent. On inspecting the surface of the lung several slightly elevated places, of a different colour from the rest, were observed, in the centres of which were depressions, into which the finger sank. In other places, in addition to the deposition of pleural lymph, there are examples of local necrosis of the pleura. If he had lived a little longer he would, doubtless, have had pneumothorax. On making a section through one of the hard masses it presents the appearance of an irregular circular cavity, full of stinking débris. This is surrounded by a pyogenic membrane. Both in form and in contents this is distinguished from the ordinary hæmorrhagic infarction. The same appearances are found in the left lung. On slitting up the bronchial tubes no marks of ulceration were found. The heart presented no marked change; no septic matter had lodged in it. The pulmonary artery is not obstructed. We made a careful examination of the cranium, as far as could be done by artificial light, in the evening, and next day Dr. Purser and I examined the brain. There was absolutely nothing whatever found wrong, except that in the left hemisphere of the cerebellum was a small linear abscess, just below the pons varolii; and this was bounded by a small area of red softening. The chief interest of the *post mortem* centred in the temporal bone. He had had very moderate pain in the ear, and slight left headache, which vanished entirely as soon as the pneumonia became a prominent feature of the case. After that time we heard no more of the cerebral symptoms. The reverse, I believe, is usually the case. I took out the left petrous bone. I could not say that there was distinct evidence of meningitis; there was certainly no submeningeal effusion. The left superior petrosal sinus was occluded by a dark, decomposing, foetid thrombus. The walls of the left lateral sinus were extremely thickened, and the thrombus in it had broken down into a dirty, chocolate-coloured grumous mass. The bone over the roof of the tympanum was perfectly rotten, and the slightest pressure caused the blade of the knife to sink in it. The tympanic cavity was occupied by brown grumous matter, like that in the sinus, and contained also a quantity of cheesy material. I could see no change in the labyrinth. The surface of the bone was rough and irregular. The sputum was examined microscopically, and, in

addition to pus globules in various stages of change, it contained blood globules, and was rich in needles of fatty acids. I examined several specimens taken from the pulmonary abscesses, and they were abundantly rich in elastic fibres, presenting in parts the alveolar structure of the lung, interspersed with crystals of hæmatoidin. Some of the points of this case, I think, call for remark. First, as to the absence of any disturbances in the sensorium. This, I think, is accounted for by the locality of the lesion which involved the temporo-sphenoidal lobe of the brain, and caused no exudation into the lateral ventricles. How the facial nerve escaped I cannot understand, but the man certainly exhibited no facial paralysis. The small abscess in the brain was too far off from the bone to admit of the supposition that the channel of infection was direct, and it was evidently caused through venous implication. The chief interest of the case arises from the question as to what was the cause of the caries of the temporal bone, and of the putrefactive changes in the tympanic cavity. In most cases suppuration of the tympanum is preceded by otorrhœa; and then the putrefactive germs get access through the external meatus. There is only one other possible channel through which the germs can get to the tympanum, and that is the Eustachian tube. Was it possible that in this case the germs got up the Eustachian tube and set up putrefaction in the tympanic cavity? We had no opportunity of observing the condition of the Eustachian tube. There was no history of sore throat or of any affection of the tonsils. The *post mortem* showed that nothing could have been done for the patient, and that trephining or any other surgical interference was out of the question.—*January 21, 1882.*

*Albuminuria.*—DR. WALTER SMITH said: For the opportunity of exhibiting this specimen I am indebted to my colleague, Dr. William Moore. It is an example of a common form of disease, but has one point of pathological interest. Ten years ago Dr. W. Moore detected albuminuria in a woman who was sixty years of age when she died. The woman was admitted into hospital a fortnight ago suffering from dropsy which had then for the first time appeared. Her heart was normal, but her urine was found to contain a large number of tube casts and blood corpuscles. She had extensive bronchitis, and on the 4th of February, four days before her death, was seized with an epileptiform fit, accompanied with clenched jaws. These fits occurred once or twice afterwards, and on the 8th of February she fell into a fit from which she never rallied. The left kidney is the larger of the two, and instead of being reduced below the normal size is fully up to it. The surface presents the appearance of a large granular kidney. There is extensive hæmorrhage and ecchymosis at the apex of one of the pyramids, which is sufficient to account for the hæmaturia which was observed. What

struck me as the principal point of interest is that the right kidney differs very materially in appearance and size from the left. There are hæmorrhages in the pelvis of the right kidney; and it will be seen that the secreting structures of the gland are almost totally destroyed. The capsule is thickened and opaque, and the surface of the kidney is granular in a conspicuous degree. The lesions in Bright's disease are usually developed to a tolerably symmetrical degree in each kidney, but here the appearances are widely different. The question raised by the specimen appears to be of some importance. Does the right kidney represent a further stage of the disease exemplified in the left kidney, or was there some local cause that led to the atrophic degeneration of the kidney?—*February 11, 1882.*

*Staphyloma anterior of the Eyeball.*—MR. ARTHUR BENSON said: The specimen which I wish to show to the Society is one of extensive ciliary staphyloma. The history is that J. P., aged 62 years, a labourer, when breaking stones sixteen years ago, got a blow from a piece on the left eye. He thinks it did not wound the globe, but only struck the lids. The blow was a severe one, and he had to go under the care of Dr. Moorhead, in Tullamore, where he remained for thirteen or fourteen weeks. The swelling of the lids, which immediately followed the injury, was extreme, but there was no external bleeding, and when the eyelids were opened by the hand he could see well. There was, however, extreme pain. In a few weeks time the swelling of the lids subsided, and he then noticed what he called "a pearl growing on the sight." This became larger, and the pain lasted severe for six months, but the sight of the eye was not much affected. From this time, until about a year ago, he suffered from a dull, heavy pain in the globe, with temporary exacerbations at irregular intervals. Swelling of the globe above, then for the first time noticed, had since been steadily increasing, but the pain had nearly disappeared, except at times when a little of the old trouble returned with a feeling as if there was sand in the eye. The increasing size and discomfort of the globe induced him to apply to Dr. Moorhead, who sent him up to Dr. Hamilton, and thence to St. Mark's Ophthalmic Hospital, where I enucleated the eye this morning, and bring the specimen so obtained. On admission to hospital yesterday, there was seen a large protrusion of the sclerotic in the ciliary region all round. The cornea was small and oval, yellow in colour, and ulcerated in the centre. The anterior chamber was filled up by a mass of yellow lymph, which glued together the cornea, iris, and lens, obliterating the percolation spaces at the angle of the anterior chamber. Tension was +1; vision absolutely gone. Enucleation was performed for purely cosmetic purposes. The probable sequence of events was—the primary injury set up acute irido-cyclitis and general inflammation of the anterior structures

of the globe. This never totally subsided, but slowly changed into the chronic form of sclerotico-chorioiditis anterior, with effusions of lymph into the anterior chamber, and blocking up of the iritic angle and the percolation spaces there situated, producing a condition of secondary glaucoma with increased tension of the intra-ocular fluids, and the pain. The increased tension acting on the anterior coats of the eye, weakened by the chronic inflammation which deprived them of their normal resiliency, produced the staphylomatous swellings, thus relieving the tension, and, at the same time, the pain. The other eye is perfectly sound, except for some superficial nebulae on the cornea, resulting from chips of stone striking it from time to time. There is no sign whatever of sympathetic mischief being set up in it.—*February 4, 1882.*

*Pleural Effusion causing Sudden Death.*—DR. J. W. MOORE said: There are a few facts of interest in connexion with the clinical history and pathology of this case. The day before yesterday, early in the morning, a woman, aged fifty years, was sent into the Meath Hospital, suffering from "bronchitis." She had been three weeks ill. When I saw her in bed she was breathing with great rapidity, was anæmic, had an œdematous appearance, and was, to a certain extent, cyanosed. She seemed to be exceedingly ill, and one would have said that she was the subject of mitral-valve disease in its later stages. She said she never had acute rheumatism. A physical examination showed what was the matter. The right side of the chest was almost quiescent, exhibiting scarcely any expansion. There was the most absolute dulness to within an inch and a half of the clavicle. In the axillary region on this side the heart sounds were very audible. This was confirmed by one of the senior students, who made a very detailed examination of the case. Also in this situation vocal resonance was well marked. Over the left side of the chest very noisy respiration was heard of: an evidently compensatory character. Over large tracts of the left lung a crepitus was heard, which I had little reason to doubt was that of intense hyperæmia. The diagnosis we made was extensive right pleural effusion. The heart was displaced somewhat towards the left side. The most remarkable thing was that the cardiac impulse was distinctly seen along the left border of the epigastrium. This led us to believe that the right ventricle was very much distended with blood. I passed a capillary trochar into the pleural cavity, and drew off a little serum, confirming the diagnosis of an extensive pleural effusion, and then arranged to have the chest tapped on the following morning. Unfortunately this postponement of the operation led to its never being performed, for the poor woman, after a short struggle, succumbed the same evening. Looking back on the case, I am very sorry the operation was not performed the moment she came into hospital. At the *post mortem* examination eighty ounces of clear straw-

coloured serum were gathered from the right pleura; and probably more was lost. The right lung was in a state of extreme collapse. It was perfectly airless through five-sixths of its extent, the only air-containing portion being near the apex, which was in a state of considerable hyperæmia, and in which also there were two or three patches of cheesy matter, which were the evidences of old catarrhal pneumonia rather than of hæmorrhagic infarction. The pleura was thickened, and masses of lymph could be detached from it. The appearance of the pleura was such as we should expect to find after an attack of general pleuritis of about three weeks' duration. Passing to the left lung, a very considerable portion of its surface was found to be in a state of collateral hyperæmia; and in the apex there were some caseous nodules. All the chambers of the heart contained large quantities of blood; otherwise, with the exception of the deposition of a good deal of fat on the heart externally, that organ is tolerably healthy. The capacity of the left ventricle is very small, as if it were still in a condition of *rigor mortis*. Large quantities of blood were found in the pulmonary artery. The woman seems to have died from two causes—namely, a collateral hyperæmia existing to some extent in the left lung, and asystolism of the heart due to the great obstruction caused by the pleural effusion.

DR. WALTER SMITH said this was one of a class of cases with which every physician was familiar—of rapid and even sudden death occurring in the most unexpected way from pleural effusion. The difficulty he felt was that, although hyperæmia and consequent occlusion of the lung on one side would account for occlusion on the other side and consequent slowly occurring death, it did not account for the sudden death that took place here. Did Dr. Moore make any observation as to the relative positions of the heart and the great vessels, for they knew that in some cases the great vessels got a twist from the dislocation of the heart, so that the circulation was carried on under great disadvantages; and a momentary increased stress in the circulation arresting the heart was more likely to have caused sudden death than the consecutive results of hyperæmia on the unaffected side?

DR. FOOT observed that it had been stated that unexpected death in cases of pleural effusion was more common when the effusion took place on the right side than on the left, contrary to popular impressions, for unskilled persons were greatly alarmed by the extreme displacement of the heart which effusion on the left side occasioned. Modern authorities had endeavoured to explain unexpected death in cases of right pleural effusion by the strain that was thrown on the inferior vena cava. It was well known that the heart would beat for a long time when out of its place, as well as if there had been no dislocation; so that it was not the displacement which caused death.

DR. BENNETT observed that in cases of chronic effusion, after fluid

had been evacuated and injections used, sudden death often occurred; and he did not know that the displacement hypothesis would apply to such cases. The evacuation would untwist anything that was twisted, and the injection was never performed with such force as to distend the cavity. Still the accident of sudden death was one that every surgeon should have before his mind in operating.

DR. EVELYN LITTLE said that, having regard to what were the fixed points of the heart, it was capable of bearing a great deal more pressure from effusion on the left side. Everyone was familiar with the enormous displacement of the heart that occurred from effusions on the left side; but he thought he was right in saying that, even where there was extreme effusion on the right side, it was very hard to be certain that there was any deviation of the heart from its place.

DR. NIXON said that, even where effusion on the right side was extreme, they seldom saw any marked change in the impulse beat of the heart. He did not think displacement of the heart could be looked on as a direct cause of sudden death. Probably the altered relation of the vessels arising from a twist would, having regard to the state of the circulation in extreme pleural effusion, favour the production of a coagulum which might produce a rapidly fatal issue.

DR. MOORE, in reply, said that, not having seen the parts until that morning, he was not in a position to say whether the situation of the inferior cava was abnormal or not. As to the postponement of the operation, he saw the woman the moment she was put to bed, and he had to make a very careful examination. He thought that had sufficiently tired her without proceeding further, and he also wished the surgeon on duty to perform the operation, thinking, from what he had seen of such cases of pleural effusion, that she was likely to live until the following morning. She was in a state of extreme prostration after the examination, and he contented himself with ordering her stimulants, believing that she really would not have borne the operation then. As to the clot in the pulmonary artery, he did not think it was an *ante mortem* clot.—  
*February 4, 1882.*

*Laryngeal Fistula, probably of Lupoid Origin.*—DR. BENNETT said: I will mention the facts of this case before the patient comes before the Society. Ten days after Christmas she was sent up to the hospital to me from the country. On first hearing her breathing the impression produced on my mind was, that tracheotomy had been performed. So strong was the idea on my mind, that my first question to her was who did the operation. She at once said that no operation had been performed. On removing the dressing I found that she had a very large ulcerated surface over the lower part of the thyroid cartilage and directly over the crico-thyroid membrane. She is in fair health, and has no hectic or any



other symptom to indicate phthisis or tuberculosis. She is free from night sweats and permanent elevation of temperature and pulse, and has been suffering only from laryngeal distress. This commenced more than a year ago, and the distress of breathing was accompanied once or twice with expectoration of blood. After six months a swelling came in the mesial line of the neck. Before Christmas the skin broke, and a fistula formed into the larynx. The appearance of the opening now is very different from what it was when I first saw her. It was then an opening which one would regard as either tubercular or, possibly, a lupoid ulceration at the mesial line. It was extremely unhealthy, and was discharging sanious fluid like that from subacute lupus, with sinuous pouches extending down the mesial line to the sternum, and latterly from which one could express pus. The most important point is the change which has taken place in the appearance of the surface. What I wish to invite opinion upon is the nature of the disease, for I have not met with any similar case previously. The behaviour of the surface under treatment has been such that in the interval between a fortnight after Christmas and the present time the ulceration has almost healed, except in one remarkable position. In consequence of the dressings the skin appeared irritated a little at the crease of the neck. Just as the wound began to cicatrise the main fold began to ulcerate, and has now all the appearance of a limited lupoid ulceration. An internal examination of the larynx was made, at first with difficulty, owing to the great amount of frothy mucus constantly present. The epiglottis was covered with red spots. The vocal cords on the left side were deeply ulcerated and appeared almost destroyed, and there was considerable ulceration of the larynx, but of a character not to be distinguished with certainty. In order to relieve respiration it was necessary to keep the fistulous opening closed; and even now, when we take the dressing off, respiration is not so easy as when it is covered. A month ago it was possible to pass a probe in several directions into sinuses which are now healed. A week ago the inferior and largest was still open. The whole of the area was ulcerated when she came in. The actual orifice into the larynx is not diminished in size. As to her general health, tonic treatment was necessary, and it was necessary to diminish the cough she suffered from; and accordingly a sedative cough mixture was given, and local applications were used with the wound, consisting of iodoform, and subsequently of compound tincture of benzoin, which has proved most effectual. The iodoform is rather irritating unless it is in weak solution; the tincture of benzoin and the water have been the principal means of bringing about cicatrisation. The principal point connected with the treatment is the extreme rapidity of the cicatrisation of these rapidly-forming ulcers. The upper one was very rapid, and yet a few applications of the remedies made it cicatrise with the extraordinary

rapidity that is observed in lupus. Yet I was slow to make the diagnosis of lupus, because in the recorded cases of lupus of the larynx there have been always demonstrations of it elsewhere. This woman has no signs of lupus on any other part of her body. The question is, whether the disease of the larynx is tubercular or lupoid. There is no evidence of any syphilitic taint, nor has the patient had any previous illness of importance.\*—*February 4, 1882.*

*Diffuse False Aneurism of Abdominal Aorta.*—DR. REDMOND said: These are the abdominal viscera of a female, except the liver, spleen, and right kidney which were healthy, and, having no practical bearing on the case, were not preserved. A widow, aged fifty-four, was admitted into the Mater Misericordiæ Hospital on the 9th of February, said to be suffering from obstruction of the bowels. She stated that she had frequently suffered from constipation during the last two years, and that about a year ago she had an attack similar to that which now brought her to hospital, only that it was not of so severe a character. On Saturday, February 4, previous to admission, she complained of constipation, accompanied by pain in the left iliac fossa. On the Monday following the pain increased in severity, and vomiting occurred, which continued till she obtained admission to hospital on the 9th. She could give no history of strain or of having over-exerted herself in any way. Her state on admission was—pulse, 130; respiration, 25; temperature, 99°, heart intermitting every fifth beat; appearance healthy, and not at all anæmic. The history naturally enough pointed to hernia, but no tumour of that nature could be found. During the examination the femoral arteries were observed to be in a dilated condition and pulsating strongly, which suggested that the patient might be the subject of aneurismal diathesis, but neither bruit or pulsation could be detected on examining the abdominal and lumbar regions. The abdomen was distended with flatus and tympanitic over the greater portion, but dulness was detected over the left iliac fossa, and could be traced upwards to the margin of the thorax. The patient improved somewhat under treatment, pain diminished, and at one time ceased for twelve hours, pulse and heart growing stronger. On the 11th, about noon, she became faint, rallied, again grew weak, and died in about twelve hours. The *post mortem* examination, which was made twenty hours after death by Mr. Thomas Stack, whom I have to thank for the careful manner in which it

\* Subsequently to the presentation of the patient to the Society she was attacked with erysipelas, which wandered over the face, neck, and upper part of the body, having originated at the yet unhealed fistula. The patient suffered much during the progress from laryngeal distress and dyspnea, with fever, but finally, on the cessation of the erysipelas, the fistula closed completely, and the voice returned very completely. The curative action of erysipelas, so often observed in lupus, is strongly in favour of the view that this is a case of lupus.



was performed, exhibits a large diffuse false aneurism, twelve inches in vertical length, by fifteen inches in circumference, which extends from the left iliac fossa to the spleen. The anterior wall of the sac being formed by the peritoneum and descending colon, which was pushed forwards and greatly narrowed. The posterior wall was formed by the iliac fascia, &c., the left kidney being situated at the upper and back part of the sac. On turning the specimen over you will observe a large rent in the posterior wall, which corresponds with a similar opening on the anterior and left lateral aspect of the abdominal aorta, being caused, no doubt, by the rupture of a dissecting aneurism about the size of a large egg, which is situated about one inch above the bifurcation, the handle of the scalpel can be passed upwards between the coats as far as the origin of the superior mesenteric artery and downwards till the bifurcation is reached. The common iliac arteries present two aneurisms the size of walnuts, the left one being much the larger. The femoral arteries also being in an aneurismal condition. In fact there appeared to be a tendency to develop aneurism at constant intervals. I think the case is interesting for the following reasons:—1st, the patient being a female; 2nd, from the position of the aneurism which is usually situated above the renals, involving the coeliac axis; 3rd, being a dissecting aneurism: 4th, the formation of a diffuse false aneurism.—*February 18, 1882.*

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#### THE THERAPEUTIC ACTION OF ZINC.

DR. TESTA draws the following conclusions from his experiments made with a twenty per cent. solution of sulphate of zinc injected hypodermically:—1. Zinc possesses a marked action on the heart; it diminishes the force of cardiac contraction and reduces blood pressure. It then causes an increase in blood-pressure by direct action on the blood-vessels, causing their contraction. 2. Zinc acts on the intra-cardiac termination of the pneumogastric nerve; and, 3, causes arrest of the heart in diastole. 4. It diminishes peripheral sensibility up to complete anæsthesia, and causes motor paralysis. 5. Zinc reduces the excitability of the nervous system, and is indicated in convulsive neuropathies; it also reduces utero-ovarian hyperæmia, and is indicated in hysteria. 6. It is also indicated in nervous palpitations.—*Bull. Gén. de Thér.*, Feb. 15, 1882, and *Phil. Med. News*, May 13, 1882.

#### POWDER IN MIGRAINE.

QUINIDIAE sulphat., gr. 24; caffeini, and acidi tartarici, āā gr. 16; morphiæ, gr. 8; sacch. alb., gr. 150. M. Powder, and divide into five equal parts—one to be taken morning and evening alone, or in a cup of coffee without milk.

**INTRODUCTORY LECTURE  
TO THE COURSE OF LECTURES ON MATERIA MEDICA.  
SUMMER SESSION, 1882.**

**By WALTER G. SMITH, M.D., Dubl. ; King's Professor of Materia Medica  
and Pharmacy in the School of Physic in Ireland.**

**GENTLEMEN,**—The practice of delivering Introductory Lectures which prevailed in this Medical School, as in many others, has within the last few years—wisely, no doubt—fallen into disuse, and the Professors now meet their successive classes without any preamble. But the assumption of the duties of a chair by a new Professor offers, I conceive, a fitting occasion for a return to former custom, and, with your permission, I will avail myself of the present opportunity. It seems to me advisable that a first course of lectures should be prefaced by a few words in explanation of the plan of teaching proposed to be adopted, and of the subject-matters to which the lectures must of necessity be restricted. And, in truth, this is the real difficulty of the lecturer—how best to make his selection of topics, both as to quantity and quality. With a wide field lying before him, the teacher must needs become an Eclectic, and consider as carefully what he will omit as how much he can compress into his brief span of lectures.

The highest and noblest part of the physician's work consists in his endeavours to prevent the development and check the spread of disease ; and by the persistent and unselfish efforts of medical men the community is being gradually, although slowly, roused from its long torpor of ignorance and apathy upon questions which so closely affect its well-being and comfort. But so long as the existing race of human beings continues, so long will there be an incessant conflict with disease and death, coupled with demands upon the resources of medicine for the cure of disease and the alleviation of suffering.

If we exclude from consideration the means employed in pure surgery and obstetrics, we have at our disposal for the object referred to a multitude of agents which we term remedies.

In a broad and liberal interpretation of the word remedy we will find it impossible to draw a line of distinction between a poison, a medicine, and a food ; nor can we doubt that the action of foods, medicaments, and poisons upon the system must be capable of explanation upon the same fundamental principles and be subject to the same general laws. One and the same substance may act in all three capacities. Thus, common salt is (*a*) an essential constituent of our food, (*b*) a medicinal agent, and (*c*) forms a means of suicide among the Chinese. Furthermore, in

addition to material substances, in the actual treatment of our patients we call to our aid such physical agencies as light, heat, cold, and electricity, as well as pneumatics, climatology, and hygienic measures.

From this enumeration it is manifest that without due limitation of topics no course of instruction of any practical utility could be carried out within the compass of a single session of forty lectures. Hence the lectures must needs be limited to a consideration of *Materia Medica*, in the literal sense of the term—i.e., the material substances employed in the treatment of disease.

“There is no law to define rigidly the scope and arrangement of a course of lectures on *Materia Medica*, and therefore, to a certain extent, the teacher is left to frame a plan according to his own idea of the relative importance of the various branches of his subject” (Scoresby-Jackson).

The Professorship which I have the honour to hold is designated in the Act (40 Geo. III., c. 84) under which it is constituted as that of “*Materia Medica and Pharmacy* ;” but Pharmacy, which treats of the collection, preservation, preparation, and dispensation of medicines, is now, by universal consent, relegated to the apothecary and the pharmaceutical chemist, and will not come into the scope of the lectures. At the same time I must, from personal experience, bear my testimony to the great advantages to be derived from a knowledge of practical pharmacy and the art of prescribing, to be gained—and gained only—at the dispensing counter of a large hospital or of a compounding establishment; and I have never known any student regret the time spent in acting upon such advice.

By a recent regulation of the authorities of the School of Physic, as some of you are perhaps aware, it is enjoined that the course of lectures which we inaugurate to-day shall be devoted in future to Pharmacology and Therapeutics; and upon this recommendation I wish to make a few observations.

Now, if we merely regard the words as such, Pharmacology is nothing more than the Greek equivalent for *Materia Medica*, and has been so accepted for a long time by most writers. But of late years, in consequence of the application of physiological methods to the investigation of the actions and uses of drugs, a new meaning has been given to the word, and we are obliged to individualise pharmacology as an independent study from descriptive *Materia Medica*, which treats of the sources, characters, and tests of drugs and their preparations. As Professor Fraser, of Edinburgh, pointed out in his Address at the International Medical Congress, we no longer assign to pharmacology the old signification which it bore as a mere synonym of *Materia Medica*. It now implies the science of the action of remedies, and it accordingly deals with the modifications produced in man and animals in a healthy condition by the operation of medicinal substances. Modern pharmacology

is nothing else than a branch of applied physiology. Hence it is essentially an experimental science, and its advancement can be secured only by the experimental method which, from the nature of the case, must be carried out upon living beings.

Did time permit, it would be easy to demonstrate by a host of striking illustrations how fruitful this method has been and what substantial benefits it has conferred upon humanity since its introduction by Bichat, its subsequent applications by Magendie, and the splendid developments which it received at the hands of Claude Bernard. But scientific arguments are of little avail against popular clamour; and an enlightened (?) Legislature, impelled by shallow sentiment, have passed a law so stringent in its operation that during its continuance it will be impossible for any one in this kingdom to engage in pharmacological investigations with any freedom of research. In a recent important medico-legal case of poisoning—the first exigency which has arisen since the passing of the Vivisection Act in 1876—serious delay was occasioned because the chemical expert employed by the Home Secretary was obliged to obtain a license before he could dare to experiment upon a few mice in order to compare the effects of aconitia with those caused by the poison used in the case under trial. It came to this, that the medical men engaged were inclined to go to France to pursue those investigations necessary to bring to justice a criminal in England. When we remember that without the aid of these physiological experiments the proof of Lamson's guilt would have been inconclusive, it is to be hoped that the public, in their own interests, will be forced to acknowledge the indispensable necessity of such experiments, at least in toxicological inquiries.

Therapeutics, or the art of treating disease, rests upon pharmacology, yet is not bounded by it; and although this latter study is still in its infancy, let us join with those who hope that, sooner or later, "the pharmacologist will supply the physician with the means of affecting in any desired sense the functions of any physiological element of the body." Perhaps some of us may live to see that day, foreshadowed by the sanguine imagination of Professor Huxley, when it will "become possible to introduce into the economy a molecular mechanism which, like a very cunningly-contrived torpedo, shall find its way to some particular group of living elements, and cause an explosion among them, leaving the rest untouched." The Professor's metaphor brings to mind a Yankee advertisement which appeared some years ago, and which expresses somewhat the same idea in more homely language. It ran thus:—"If you want a really unsophisticated family pill, buy Dr. Rumbolt's liver-encouraging, kidney-persuading, silent perambulator, 27 in a box. This pill is as mild as a pet lamb, and as searching as a small-tooth comb. It don't go fooling about, but attends strictly to business, and is as certain as an alarm clock."

Meanwhile, in endeavouring to present the subjects of Therapeutics and of modern Pharmacology before a class of students the lecturer cannot but feel embarrassed by difficulties of two kinds—firstly, those arising from the difficulties and uncertainty of the subjects themselves, and, secondly, those depending upon the junior standing of his hearers, who cannot be supposed to possess that familiarity with disease or that degree of medical culture necessary to appreciate and weigh therapeutical doctrines and rules.

I do not intend, therefore, to enter into minute therapeutical details, which in fact belong rather to the *practice* of medicine, and must be taught in the wards of the hospital, where also the golden truth is to be learned that therapeutics is not synonymous with drug-giving, and that in many instances the wise physician is he who “treats the healing power of Nature as the sunflower the sun : he follows it till it becomes invisible.”—“Medicus curat, Natura sanat morbos.”

The plan of the course of lectures, then, will be somewhat as follows:—The early lectures will be occupied in explaining the general principles of Therapeutics, and in defining and illustrating the sphere of action of the chief therapeutical groups of remedies—i.e., general pharmacodynamics. More than sufficient material for the remainder of the course will be found in bringing before the class those drugs and preparations, organic and inorganic, in the British Pharmacopœia which are of most importance and in most frequent use. As the official list amounts to about 900 articles in all, it is evident that a selection must be made on the principle of the survival of the fittest. It has lately become the fashion to decry the study of descriptive materia medica, and it is asserted on high authority that the possession of such knowledge is a useless burden on the memory—it is said that it is no more the business of a physician to know the source and chemical and physical properties of the drugs he handles than it is the part of a surgeon to know the details of the manufacture and qualities of the steel of which his instruments are made. But the analogy is a superficial one, for the simple reason that, while in the one case it is true a knowledge of the composition and nature of his instruments would not enable him to use them to better advantage, in the other case it would be easy to show that an accurate knowledge of the characters and properties of drugs is of everyday service to the practitioner in enabling him to prescribe with elegance, to avoid improper combinations, to detect impositions, and to explain many unexpected phenomena that he will assuredly encounter.

Now the recognition of the characters of drugs and the fixation of them in the memory is not difficult to acquire, provided the student has opportunities of handling and inspecting specimens at his leisure, and thereby practically learning the sensible qualities of drugs. “The requisite knowledge is not to be got by looking at specimens on the

Professor's table in the lecture-room, at the distance of several feet or yards, nor yet by 'walking' the Professor's museum" (Harvey and Davidson).

To meet this requirement I propose, in the first place, to give occasional demonstrations in the Museum on the drugs and preparations, and secondly, to allow the students access, under certain conditions, to a separate collection of drugs, so that they may familiarise themselves by sight, touch, taste, and smell, with each article. Need I say that the goodwill and hearty cooperation of the students will be relied on to ensure success to this proposal. Through the liberality of the Board of Trinity College, who have so unstintedly fostered this Medical School, it is now provided with an excellent and well-appointed Museum of *Materia Medica*; and, in passing, I may mention an interesting fact, exhibiting the rapid growth of the School, that within my own recollection the small room which contains the collection of *Materia Medica* was formerly the anatomical lecture-room, and its benches gave room enough for the class of students twenty years ago.

The plan and design of the *Materia Medica* Museum, its arrangement, and the mounting of the specimens in it, were wholly the work of my predecessor, and their beauty and permanence after so many years testify to the thoroughness with which his task was done—to him a labour of love.

It shall be my aim to emulate his example of conscientious work, and my endeavour so to teach that branch of your studies allotted to me that it may become part of that education of which we may say with Celsus:—"Quamvis non faciat medicum, aptiorem tamen medicinæ reddit."

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#### CALABAR BEAN IN OBSTINATE CONSTIPATION.

In animals calabar bean is known to produce tetanus of the intestinal muscular coats, and hence to bring about the forcible expulsion of the contents of the intestine. Dr. Schaefer (*Berlin. klin. Woch.*) has on this ground employed it in obstinate constipation depending on atony of the muscular coats, such as is often observed in women and in old men. The result has justified his expectations, for severe cases have yielded in less than twenty-four hours after administration of the drug. His formula is:—*R.* Extr. physostigmatis, 0·05 gramme. Glycerini, 10·00 grammes. [Nearly one grain in two and half drachms.—ED. PERISCOPE.] Of this six drops are to be taken every three hours during the day.—*Practitioner*, May. [The effect of physostigma in increasing peristaltic action of a spasmodic character in the bowels, is referred to by Binz, who has also directed attention to the use of the drug as a remedy in habitual constipation.—ED. PERISCOPE.]

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, May 20, 1882.*

Towns	Population in 1881 (Unrevised)	Births Registered	DEATHS REGISTERED			DEATHS FROM ZYMOTIC DISEASES							Deaths from Phthisis	Annual Rate of Mortality per 1,000 Inhabitants
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		
Dublin, -	348,293	850	789	151	178	-	51	3	4	1	19	10	102	29.5
Belfast, -	207,671	612	379	75	55	5	-	4	2	3	13	9	70	23.7
Cork, -	78,361	188	154	16	43	-	1	1	1	2	9	4	28	25.5
Limerick, -	38,600	97	76	14	23	-	-	1	-	-	1	2	9	25.6
Derry, -	28,947	75	68	12	13	-	-	-	-	-	1	1	10	30.5
Waterford, -	22,401	47	33	4	6	1	-	-	-	-	5	1	7	19.2
Newry, -	14,782	40	28	2	8	-	-	-	-	-	-	-	4	24.6
Galway, -	14,621	35	31	8	10	-	-	-	-	-	1	1	4	27.6

With the advancing spring we are able to record a tolerably general lowering of the death-rate. It was, however, still high in Derry, Dublin, and Galway, and rather high in Limerick, Cork, and Newry. The rate represented by the registered deaths was 21.4 per 1,000 of the population annually in twenty-eight large English towns (including London, in which it was only 19.7), 26.3 in the sixteen principal town districts of Ireland, 21.1 in Edinburgh, and 26.7 in Glasgow, where whooping-cough is prevalent and fatal. If we deduct the deaths (24) of persons admitted into public institutions from localities outside the district, the rate of mortality becomes 28.6 within the Dublin Metropolitan Registration District, but is still as high as 31.2 within the municipal boundary. The deaths registered in Dublin were 789, compared with 856 in the previous four weeks; they included 151 of children under one year old and 178 of persons aged 60 years or upwards. Nineteen out of every hundred of the deaths occurred among infants of less than one year.

The deaths from zymotic diseases in Dublin fell to 108 from 121 and 183 respectively in the two preceding four-week periods. They were also considerably below the average number (152.7) registered in the corresponding period of the previous ten years. Measles again showed a perceptible decline—the deaths being 51, against 70 in the four weeks



ending April 22, and 121 in the four weeks ending March 25. Of the 51 deaths ascribed to measles, not a single one occurred in any of the Dublin hospitals, to which the admissions of cases of measles in the four weeks were only 16. Forty-six of the 51 fatal cases were children under five years of age, including 11 infants less than twelve months old. Smallpox appears to be gradually dying out in Belfast—only 5 deaths were referred to this disease, against 7 in the previous four weeks. Fever, specially typhus, was rather prevalent and fatal in Belfast, Cork, and Waterford. In Dublin, of the 19 deaths included under "fever," 5 were ascribed to typhus, 13 to enteric or typhoid, and 1 to fever of ill-defined type; in the previous four weeks, of 22 fever deaths, 6 were referred to typhus, 12 to enteric, and 4 to fever of ill-defined type.

The deaths from phthisis (pulmonary consumption) show a falling off in consequence of finer weather. Other diseases of the organs of respiration caused 171 deaths in Dublin, compared with a ten-years' average of 146·4 in the corresponding period. Bronchitis proved fatal in 108 instances (average = 97·1) and pneumonia in 41 (average = 26·8). Rather cold weather at the end of April and a prevalence of easterly winds are probably responsible for this high mortality.

On Saturday, May 20, the cases of the chief epidemic diseases under treatment in the principal hospitals of Dublin numbered 105, and included none of smallpox, 25 of measles, 18 of scarlet fever, 27 of typhus, 20 of typhoid, and 15 of pneumonia. The mean temperature of the four weeks was 49·8° in Dublin, 50·7° at Greenwich, and 46·8° in Edinburgh.

STATISTICS for Four Weeks ending Saturday, June 17, 1882.

			DEATHS REGISTERED			DEATHS FROM ZYMOTIC DISEASES							Deaths from Phthisis	Annual Rate of Mortality per 1,000 Inhabitants
			Total Number	Under 1 year	At 80 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		
Dublin, -	348,298	784	631	224	142	-	12	1	-	-	20	9	22	23.5
Belfast, -	207,671	547	366	71	51	■	-	8	-	4	12	8	60	22.4
Cork, -	78,361	180	118	15	24	-	-	-	1	-	7	1	17	19.6
Limerick, -	38,600	101	64	6	15	-	1	-	-	1	1	7	10	21.6
Derry, -	28,947	71	43	7	11	-	5	-	1	-	-	1	2	19.8
Waterford, -	22,401	73	44	4	15	-	-	-	-	-	9	-	5	27.9
Newry, -	14,782	47	27	6	4	-	-	2	-	-	2	1	5	23.7
Galway, -	14,621	30	23	7	4	-	-	-	-	-	-	2	3	20.5



A high rate of mortality ruled in Waterford, where an epidemic of typhus fever prevails, having caused 9 deaths in the four weeks. In Newry and Dublin, also, the death-rate was rather high for the time of year; in the other towns it was moderate or low. The deaths registered in the period now under discussion represented a ratio of 20·0 per 1,000 of the population annually in twenty-eight large English towns (including London, in which the death-toll was as low as 18·3), 22·4 in the sixteen principal town districts of Ireland, 19·9 in Edinburgh, and 24·9 in Glasgow, where whooping-cough killed 46 individuals, against 61 in the preceding four weeks. Deducting the deaths (16) of persons admitted into public institutions from localities outside the district, the rate of mortality within the Dublin Registration District is reduced to 23·0 per 1,000, and that within the municipal boundary becomes 24·9 per 1,000. In the Dublin district 631 deaths were registered, compared with 789 in the previous period. There is a considerable and satisfactory fall in the number of deaths of infants under one year old—namely, from 151 in the four weeks ending May 20 to 94. This is chiefly accounted for by the subsidence of the epidemic of measles—a circumstance which also favourably influenced the mortality from zymotic maladies. This group of diseases caused only 64 deaths, against an average of 145·5 in the corresponding period of the previous ten years, and compared with 108 in the preceding four weeks. Measles proved fatal in only 12 instances—10 of the victims being children aged between one year and five years. The deaths from smallpox in Belfast were 8, or 3 in excess of those registered in the previous period. Typhus fever continued prevalent and fatal in Belfast, Waterford, and Cork. In Dublin, of the 20 deaths included under the heading “Fever,” 7 were ascribed to typhus, 8 to enteric, and 5 to fever of ill-defined or undetermined type.

Phthisis was again less fatal in most of the towns. Diseases of the respiratory organs extinguished 150 lives in Dublin, against a ten-years’ average of 132·1. The deaths included 92 from bronchitis (average = 85·8) and 45 from pneumonia (average = 24·9). Wide diurnal ranges of temperature and searching easterly winds in May, followed by cold and very showery weather in June, probably increased the prevalence and fatality of these affections.

On Saturday, June 17, the number of cases of the undermentioned epidemic diseases under treatment in the principal Dublin hospitals were—smallpox, 0; measles, 14; scarlet fever, 14; typhus, 20; typhoid, 9; pneumonia, 8.

The mean temperature of the four weeks was 55·7° in Dublin, 56·4° at Greenwich, and 53·2° in Edinburgh.

## METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,  
for the Month of May, 1882.*

Mean Height of Barometer,	-	-	-	30·012 inches.
Maximal Height of Barometer (on 17th at 9 a.m.),	-	-	-	30·515 „
Minimal Height of Barometer (on 24th at 9 a.m.),	-	-	-	29·141 „
Mean Dry-bulb Temperature,	-	-	-	53·6°.
Mean Wet-bulb Temperature,	-	-	-	49·5°.
Mean Dew-point Temperature,	-	-	-	45·4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·306 inch.
Mean Humidity,	-	-	-	74·5 per cent.
Highest Temperature in Shade (on 11th),	-	-	-	66·7°.
Lowest Temperature in Shade (on 17th),	-	-	-	38·0°.
Lowest Temperature on Grass (Radiation) (on 17th),	-	-	-	30·8°.
Mean Amount of Cloud,	-	-	-	39·9 per cent.
Rainfall (on 16 days),	-	-	-	1·533 inches.
Greatest Daily Rainfall (on 23rd),	-	-	-	·391 inch.
General Directions of Wind,	-	-	-	E. and S.S.W.

*Remarks.*

May was a fine month, with much bright sunshine and a preponderance of easterly winds, especially from the 12th to the 22nd inclusive. On the latter day the weather broke up, becoming thundery and rainy, and continuing so for several days. Fair weather again returned on the 30th. Speaking generally, the weather strangely resembled that of May, 1881. During the first few days several depressions crossed the British Isles from S.W. to N.E., causing showery weather, and in many parts of England thunderstorms. In Dublin the only evidences of electrical activity about this time were “festooned clouds” from which heavy showers of rain and hail fell on the 1st, and a sharp thunder-shower in the Phoenix Park and N.W. suburbs of the city on the afternoon of the 7th. On the 8th a tendency to the establishment of anticyclonic conditions and of quieter, more settled weather over Western Europe was observed. The period from the 12th to the 21st, during which an area of high atmospheric pressure lay over the British Islands, was characterised by almost continuous sunshine by day and low temperatures by night. Near Dublin cool easterly seabreezes prevailed daily at this time. At 10 p.m. of the 16th the comet “Wells” was seen with the aid of a small telescope between the Pole-star and the constellation Cassiopeia. On the morning of the 17th a solar eclipse (magnitude, 116 parts of 1,000 of the sun’s diameter) was observed very satisfactorily. Several large spots were noticed on the lower hemisphere of the sun. After the 21st there was a complete reversal of the conditions of weather. The anti-cyclone, with its light variable easterly winds, clear skies, and extreme

ranges of temperature between day and night, gave place to an area of low pressure in the West, which caused southerly winds, clouded skies, and frequent rains or showers. At first thunderstorms were of frequent and general occurrence. On the 22nd a severe storm passed north-westwards across central Ireland, and in Dublin thunderstorms occurred on the morning and evening of the 23rd. They came up from E.S.E., and were accompanied with heavy rain and hail. Hail fell on the 1st, 7th, and 23rd. The air was foggy on the 10th. Solar halos were seen on the 12th and 26th. There was a slight hoar-frost on the morning of the 17th. Brilliant aurora was seen in many parts of Ireland on the night of the 14th.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### THE FORMATION OF FIBRIN.

THE explanation of blood-coagulation and of the production of fibrin has long been an interesting problem for physiologists. Yet, even at this date, and in spite of the elaborate researches of A. Schmidt and others, all the phenomena connected therewith are not wholly, or quite satisfactorily, accounted for. Any trustworthy observations bearing upon the subject are, therefore, important; hence we need no excuse for directing attention to the remarkable "Note on the formation of Fibrin," just published by Mrs. Ernest Hart in the July number of the *Quarterly Journal of Microscopical Science*. Mrs. Hart's investigations were made in 1879, in M. Ranvier's laboratory, while engaged in attempting to corroborate Dr. Norris's observations on his "third corpuscle." By means of the latter observer's method of "isolation"—i.e., by an ingenious use of the force of capillary attraction, then by fixing the corpuscles to the slide and cover-glass by osmic acid fumes, and by subsequent staining with a concentrated alcoholic solution of nitrate of rosanilin—slightly-coloured, discoid corpuscles, similar to those described by Dr. Norris, could be easily demonstrated. Mrs. Hart, however, observed that these corpuscles varied in shape, according to the time during which the blood was allowed to remain undisturbed before being fixed by the osmic acid vapour. When the process was conducted as rapidly as possible, the circular form of the Norris corpuscle was retained; but if the glass surfaces were kept together a moment, the corpuscles lost their round outline, and became more or less pyriform; after a still longer interval, they showed bifurcating and ramifying branches—seemingly produced at the expense of their substance; and if the time were still more pro-

longed, the "pale" corpuscles were seen to have quite disappeared—nothing but fibrinous threads, connected with granules, remaining. The latter indeed were considered by Mrs. Hart to be all that was left of the corpuscular substance, and to be identical with the granules described by M. Ranvier as the centres of fibrin formation. In short, Mrs. Hart looks upon these corpuscles of Dr. Norris as the source of the fibrin formed in drawn blood; clear camera lucida drawings of the appearances seen are given in her paper, and the drawings certainly appear to bear out the conclusions arrived at, for the growth of the fibrin-like, fibrillar network, or its production, from the lighter-stained corpuscles can be indubitably traced in the representations. Most observers have apportioned a considerable rôle in the making of fibrin to the large colourless, white or pale corpuscles of the blood; these are, however, not alluded to in the present communication. The behaviour of the uncoloured or slightly-coloured discs of Norris are alone treated of; and they are everywhere spoken of in the paper as "pale" corpuscles. It might be suggested that in view of the generally recognised signification of the term, its application to the uncoloured discs is hardly advisable. Mrs. Hart's research is undoubtedly of great interest, and we hope that her observations will be repeated and extended. In conclusion, we cannot help referring to the extremely modest way in which she has brought forward her views, and to the truly scientific spirit which she has displayed in her work. Her last sentences are:—"In publishing this note now, I am sensible of the incompleteness of the observations, but I am led to believe that they may be useful in the present state of this subject, as furnishing material for suggestion and further inquiry. The drawings were all made by my own hand by the camera lucida, and with the utmost desire to ensure fidelity of outline and correctness of colour—my object being to elucidate facts, not to enforce a theory."

P. S. A.

#### FRACTURES OF THE SKULL RESTRICTED TO THE MIDDLE TABLE.

IN the American edition of *Holmes's Surgery*, Dr. John A. Lidell recently had occasion to show that cranial fractures are restricted to the inner table much oftener than has generally been supposed. Researches made for other purposes since that was written have brought to his notice fresh evidence, not only that his views were correct, but also that this lesion occurs with even a greater frequency than he had believed, and that it unquestionably should be assigned a prominent place among the traumatic lesions of the skull, which, although not very infrequent, are very obscure or little understood, and nearly always fatal, unless promptly treated when symptoms appear. In the *American Journal of the Medical Sciences* for April, 1882, Dr. Lidell presents some additional cases, together with a thorough exposition of the subject, and especially

of the symptoms, diagnosis, and treatment. As regards the mode of production of this variety of fracture, he shows that when the skull is broken by a blow of any sort, except at the frontal or any other sinus, the fracture always commences in the side of the skull opposite to that which is struck, and the blow, in whatever way produced, must not be strong enough to break both tables. As to the terminations of cranial fractures restricted to the inner table, the clinical histories of the cases Dr. Lidell has collected show that the traumatic meningitis and encephalitis usually end in speedy death, unless the causes thereof, the imprisoned fragments of the inner table, are liberated and removed by the timely performance of trephining.

#### HYPERIDROSIS OF THE FEET.

DR. DUHRING, in the *American Specialist*, says that in the treatment of this often very obstinate disease one of the best remedies is belladonna, in the form of the tincture. It should not be used too strong at first—one teaspoonful in one ounce of water, increasing to full strength.

#### IDENTIFICATION OF SALIVA SPOTS.

DR. CERVERA (*Cron. Med.-Quir. de la Hab.* and *Med. Progress*) gives a simple mode of distinguishing salivary stains from spermatic and others of similar appearance with which they may be confounded. This distinction is often of importance in medico-legal cases. The piece of cloth containing the spot is by capillarity moistened with a saturated solution of ferric chloride; chemical reaction will give rise to a blood-red colour in the case of saliva, but not in stains due to other fluids. Parotid saliva, especially after meals, contains the sulpho-cyanide of potassium, which strikes an intense red colour in contact with ferric salts, although these may be present only in minute quantity. Such reaction does not take place in the case of pus, nasal or vaginal mucus, spermatic or gonorrhoeal fluid.

#### ERGOT IN WHOOPING-COUGH.

MR. DEWAR, in a paper in the *Practitioner* for May on the physiological and therapeutical action of ergot, says that he is inclined to regard the drug as the best and safest remedy in pertussis. He gives from four to fifteen minims of the liquid extract every three or four hours to children of three months and upwards, and states that it seldom fails to cure whooping-cough in from one to three weeks. He regards the influence of ergot in whooping-cough as favouring the theory that it acts by paralysing the peripheral endings of the sensory nerves. However, of its power to cut short the disease there can, he asserts, be no doubt, whatever be the theory of its action.

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#### ERGOT IN WHOOPING-COUGH.

MR. DEWAR, in a paper in the *Practitioner* for May on the physiological and therapeutical action of ergot, says that he is inclined to regard the drug as the best and safest remedy in pertussis. He gives from four to fifteen minims of the liquid extract every three or four hours to children of three months and upwards, and states that it seldom fails to cure whooping-cough in from one to three weeks. He regards the influence of ergot in whooping-cough as favouring the theory that it acts by paralysing the peripheral endings of the sensory nerves. However, of its power to cut short the disease there can, he asserts, be no doubt, whatever be the theory of its action.

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## MEDICAL SCI

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Authors of Communications are requested to write the prescriptions in their papers in full, and in English.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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AUGUST 1, 1882.

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THE BOSTON  
SOCIETY FOR  
MEDICAL  
OBSERVATION

### PART I. ORIGINAL COMMUNICATIONS.

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ART. V.—*Notes on Cases of Fever treated in the Royal Infirmary, Phoenix Park, Dublin.* By BRIGADE-SURGEON ROBERT W. JACKSON, C.B., A.M.D.

A FEW months ago I submitted to the Medical Society of the College of Physicians, the records of a fatal case of enteric fever, and showed the intestinal lesions. The patient was a soldier of the West Kent Regiment, a corps lately returned from South Africa, and there was every reason to believe the disease existed before embarkation, and was contracted in Natal. The most prominent symptom in this instance was intense nervous depression. A few other cases occurred in the same regiment, and were treated in the Royal Infirmary; and as these presented symptoms from the first accession which varied in a remarkable degree from the fever endemic in Great Britain, a short summary of their course may be interesting.

From a communication of the officer commanding the regiment to the Surgeon-General, it appears there was a good deal of enteric fever among the troops in Natal previous to the departure of the regiment. In the West Kent four deaths took place in 1881, two in the first four months of 1882, and four men were invalided home from that disease.

CASE I.—On the arrival of the corps in Dublin, on April 4th, 1882, Corporal C., aged twenty-three, service two years, was admitted direct from the transport with symptoms of bronchitis; he had been previously under treatment on ship-board from the 23rd to the 30th of March, but

his ailment was not tested. On April 6th high fever set in; temperature  $104^{\circ}$ ; sore throat; great difficulty in swallowing. There were numerous patches of a grey colour on the left tonsil, and the uvula was coated with a similar deposit. At this stage there were suspicions that it was a case of diphtheria. On the 8th the temperature, which was  $103.8^{\circ}$  in the evening, fell the following morning to  $100.2^{\circ}$ ; the evacuations were dark brown, more of the remittent than of the enteric type. From the 9th to the 15th, the lung complication was the most prominent symptom, the lower lobe of the right lung presenting signs of broncho-pneumonia. At the latter date the motions were light coloured and fluid, and spots of roseola were found scattered over the chest and abdomen; the chest symptoms less urgent, and an expectoration of muco-pus. The disease was now diagnosed as enteric. The normal temperature was noted until the 27th, but on the evening of same day it again rose to  $100^{\circ}$ , and did not fall again until the 5th of May; after this the recovery was steady, and he proceeded on furlough on June 3rd.

CASE II.—Private J. G., West Kent Regt., aged twenty-six, service four years, admitted to hospital 14th of April, 1882. This man had recently returned from Natal, South Africa; he had been under treatment for bronchial catarrh, and was discharged from hospital on the 7th of April, 1882. On re-admission, he was cold; face pinched, tongue furred, pulse 140, and temperature  $95^{\circ}$ ; respiration 26. In the evening his temperature had risen to  $103.6^{\circ}$ —a difference approaching nine degrees. On the 16th,  $104.6^{\circ}$  was noted—the highest point reached during his illness. On the 22nd of April (the ninth day), his temperature was normal; there were, however, rises of half a degree each succeeding night, until the 26th, when the morning and evening ranges were  $104^{\circ}$ , with a fall to  $98.4^{\circ}$  on the 27th, after which the progress towards convalescence was steady. The tongue during the fever was usually coated white, and the bowels were costive. There was some bronchial irritation, but not to any serious extent. The pulse ranged from 80 to 100, but on one occasion reached 120, on the evening of the 26th. G. was discharged to duty on June 20th.

CASE III.—Private T. F., 2nd Yorkshire Regt., aged twenty-six, service five years, admitted to hospital May 5th, 1882; had been in Arbour Hill prison since April 28th, to which he had been sent from Belfast. On admission, he complained of sore throat, and there was an eruption on the skin not very distinct in character. His temperature was  $104.8^{\circ}$ , pulse 120, and, although he had a bath in the prison the same morning, there was a whiff of odour from his skin suggestive of typhus. On the 6th, the temperature in the morning showed a remission of about  $1.5^{\circ}$ . There was intense headache; tongue brown, with red tip and margin; the spots on chest resembled roseola mixed with acne; the eyes

red, and nervous twitchings; and the symptoms continued very acute until the 12th (eight days after admission), when a fall of nearly four degrees took place, and continued until the 15th day of illness, when it became normal, and there were only very slight elevations until the 23rd May, when on the evening of this day (the twenty-second of his attack), the temperature reached  $103.2^{\circ}$ . The following morning, after a profuse sweat, it again registered  $98.2^{\circ}$ ; his tongue, however, was covered with a thick white fur, and he complained of great debility. The tongue presented the same coating for several days, and he had occasional sweats. Was discharged to duty on the 14th of July, 1882.

For the notes on above cases I am indebted to Surgeon Swayne, who laboured under great difficulties both in the treatment and recording of the same, as frequent absence on evicton duty interfered materially with the work. He also, with much exertion, has completed charts of the cases, which I regret I cannot submit *in extenso*, as they present a more striking history than any verbal description.

These three cases are grouped together for the reason that in each there appears to be more or less malarial complication. In the early stage of the fever in Corporal C., sore throat was present, which was particularly noted by Surgeon-General Woolfryes as a symptom in the disease in South Africa. On the fifth day a fall of nearly four degrees was an additional evidence of the existence of a paludal taint. In this instance, however, the enteric affection was the most leading feature, and the ranges of temperature during the course of the fever are more diagnostic of that than of a remittent form. In Private G.'s case the initial observations, showing on the day of admission a difference of nearly nine degrees of heat, at once marked the disease as malarial, and admitted of a definite opinion that the disease was imported, and not contracted in this country—a very important fact as regards the adoption of sanitary and precautionary measures. The case of Private F., a man of a different corps, is submitted as presenting a feature most unusual in the course of typhus fever—at least in the experience of the medical officers who saw the case, and of myself. This man served with his regiment a few years ago in the West Indies and in Nova Scotia, but never suffered from fever while abroad. On admission to the Royal Infirmary from the military prison, it was thought advisable to have him treated in the Infirmary for military reasons, and as it was essential to isolate him, the two patients whose cases are recorded, and who were now convalescent, were

removed to another ward, which was occupied by the typhus cases, as it was believed there was more danger of the men of the West Kent regiment contracting typhus than that F. would be affected by the malarial taint. The fever continued high for eight days after admission, and until about the eleventh of attack, when the temperature fell to  $101^{\circ}$ , and continued comparatively low, but on the evening of the twenty-second day of attack, to the great surprise of the medical officer on duty, the range of  $103.2^{\circ}$  was noted. The remission the following morning to normal, with no local or general symptoms to account for the sudden accession, joined to the drenching sweat and the creamy tongue, induced a belief that the complication was malarial. The tongue presented the same appearance for several days after the high temperature had altogether disappeared. A similar coating of the tongue is often seen in the commencement of pneumonia and in *delirium tremens*. In F.'s case a question arises—Was the malarial poison dormant in the system since his period of service in the West Indies, or was it contracted in the ward in which two cases had previously been treated? From what I have observed since my return from Cyprus and South Africa, I am led to believe that malarial poison is infectious to an extent—although perhaps limited to a small area—which is still appreciable. Dr. Beaumont, Fleet Surgeon of H. M. S. "Minotaur," informed Sir A. Home that men who joined the ship after its return from Cyprus contracted remittent on board, although the men had never served in any malarial region previously.

On the return of the 80th Regiment from South Africa, it was observed in the wards of the Royal Infirmary that, in cases of pneumonia, pleurisy, and bronchitis occurring in men of the regiment lately joined, and who had not served abroad, the progress of the diseases was apparently modified by some disturbing cause which, to judge from the oscillations of temperature, was presumably malarial. Surgeon Bushe, during his tour of duty in the Royal Infirmary, submitted to the Medical Society a case of fever treated by him, in which, although the patient had never served abroad, the course of the disease was of the remittent form.

In the recently published Lectures on the Climate and Fever of India, Sir Joseph Fayrer states that remittent fever may commence or end as ague. Perhaps the Indian disease may differ from that of the West Coast, Cyprus, and South Africa; but, according to the opinion of medical officers who have seen and treated remittent fever not only in India, but in other localities,

the two diseases—I will not call them varieties—do not glide into one another. I have watched the accession of remittent fever varying in intensity from malarial intoxication to a simple rise of temperature, but have not seen anything resembling a well marked fit of ague in the commencement; nor have the cases changed into intermittent as the patient convalesced—malarial cachexia, with marked anæmia, being the usual sequel.

Owing to a mistake of the reporter at a meeting of the Medical Society in Dublin a few months ago, I was quoted as giving an opinion that quinine was of doubtful efficacy in intermittent fever. My remarks were intended solely for remittent, and as a prophylactic and remedial agent I have reason to believe that the drug exercises but little effect in either reducing the temperature or relieving any of the symptoms of the latter disease.

In most cases of remittent intense headache and cerebral congestion, with threatening effusion, are prominent symptoms, and no remedy affords such relief as early and free blistering of the head and nape of the neck. For internal administration a simple diaphoretic mixture, with hydrocyanic acid in doses of two minims, will at times prove useful.

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ART. VI.—*Report of Kilmainham Fever Hospital for the Year ended June 30, 1882.* By LESLIE MATURIN, M.K. & Q.C.P.I.; Physician to the Hospital.

WITHIN the above period 514 cases were admitted into hospital. The total admissions are 34 in excess of those in the year 1880–81, and 198 in excess of those in the year 1879–80.

The typhus cases constitute about three-tenths of the entire admissions for the year. They show a diminution of 64 as compared with the preceding year; and an increase of 126 with the year 1879–80. The number of enteric cases is very small as compared with the typhus cases, being only in the proportion of about 1 to 21. Two cases less were admitted than in the preceding year, when the proportion to typhus cases was 1 in about  $23\frac{1}{2}$ , and 5 less than in the year 1879–80, when the proportion to typhus cases was 1 to  $1\frac{5}{6}$ . The cases of simple continued fever (51) form about one-tenth of the yearly admissions; they are 40 less than the admissions for the preceding year, and 11 less than for the year 1879–80. Only 11 cases of scarlatina were admitted during the year—a very small number, considering the prevalence of the



disease during the period; as compared with the two preceding years, they are respectively 22 and 16 less. 154 cases of measles were admitted during the year, bearing about the same proportion to the entire admissions as typhus—viz., three-tenths. 123 cases, or about five-sixths, were admitted from the South Dublin Union Workhouse. This number is 113 in excess of the admissions for the preceding year, and 60 in excess of the year 1879–80.

**TABLE I.**—*Showing the entire number of Cases admitted for the Year ended June 30, 1882, as contrasted with the two preceding Years.*

Diseases	Year ended June 30, 1882	Year ended June 30, 1881	Year ended June 30, 1880
Typhus Fever - . . . .	148	212	22
Enteric Fever - . . . .	7	9	12
Simple Continued Fever - . . . .	51	91	62
Scarlatina - . . . .	11	33	27
Measles - . . . .	154	41	94
Varicella - . . . .	1	8	21
Erysipelas - . . . .	14	1	—
Rötheln - . . . .	1	—	—
Pneumonia - . . . .	85	45	42
Diarrhoea - . . . .	3	—	—
Hydrocephalus - . . . .	—	—	1
Tetanus - . . . .	1	—	—
Acute Rheumatism - . . . .	18	10	7
Pleuro-pneumonia - . . . .	1	1	1
Bronchitis - . . . .	25	4	3
Pleuritis - . . . .	5	7	5
Phthisis - . . . .	8	2	—
Pertussis - . . . .	—	2	—
Delirium Tremens - . . . .	4	2	1
Gastric Fever - . . . .	—	2	3
Colica Pictonum - . . . .	8	—	—
Cardiac Asthma - . . . .	1	—	—
Ischuria - . . . .	1	—	—
Intercostal Rheumatism - . . . .	1	—	—
Syphilis - . . . .	1	1	—
Diphtheria - . . . .	—	1	—
Tonsillitis - . . . .	9	3	—
Parotiditis - . . . .	—	2	2
Chronic Gastritis - . . . .	2	—	—
Stomatitis - . . . .	1	1	—
Cystitis - . . . .	—	—	1
Gastric Ulcer - . . . .	—	—	1
Meningitis - . . . .	—	1	1
Pericarditis - . . . .	—	—	2
Hæmaturia - . . . .	—	—	1
Erythema - . . . .	—	1	2
Roseola - . . . .	—	—	3
Urticaria - . . . .	—	—	2
Heart Disease - . . . .	4	—	—
Chronic Bright's Disease - . . . .	4	—	—
Total - . . . .	514	480	316

The majority of the erysipelas cases were admitted during the months of May and June in the present year; they are 13 in excess of the preceding year. It generally assumed the cutaneous form, one fatal case, occurring in an aged subject, affecting the head, upper extremities, and nearly the entire trunk; 2 cases of the cellulocutaneous form, one of which proved fatal, occurred in the lower extremities. Thirty-five cases of pneumonia were admitted during the year, being, as compared with the two preceding years, 10 and 7 less respectively. The cases of acute rheumatism show an increase of 8 as compared with the preceding year, and of 11 with the year 1879-80. Twenty-five cases of bronchitis were admitted, being an increase of 21 as compared with the year 1880-81, and of 22 with the year 1879-80.

**TABLE II.**—*Showing the Total Number of Six Principal Diseases admitted each Month during the Year ended June 30, 1882.*

Months	Typhus Fever	Enteric Fever	Simple Continued Fever	Measles	Scarlatina	Pneu- monia	Total
<b>1881</b>							
July, - -	18	—	18	—	2	2	40
August, - -	27	1	2	2	1	2	35
September, -	20	1	3	—	6	—	30
October, - -	18	2	—	—	—	4	24
November, -	15	—	2	1	2	2	22
December, -	16	—	5	34	—	6	61
<b>1882</b>							
January, - -	8	—	8	73	—	1	90
February, - -	—	1	3	16	—	5	25
March, - -	6	1	4	9	—	3	23
April, - -	6	—	1	15	—	5	27
May, - -	9	1	4	2	—	3	19
June, - -	5	—	1	2	—	2	10
<b>Total, - -</b>	<b>148</b>	<b>7</b>	<b>51</b>	<b>154</b>	<b>11</b>	<b>35</b>	<b>406</b>

The largest total number of admissions (90) occurred in the month of January, being composed principally of measles. Of the 148 cases of typhus fever 114, or about eleven-fifteenths, were

admitted during the six months ended December 31, 1881; but 34 cases occurred during the six months ended June 30, 1882, being 80 less than the preceding half-year. The greatest number (27), or nearly one-fifth of the entire number, were admitted during the month of August, showing an increase of 9 and 7 as compared with the preceding and succeeding month. There were no admissions during the month of February, but they rose to 6 in the months of March and April, and increased to 9 in May. Forty-nine cases were admitted during the winter quarter ended December, and only 14 for the succeeding winter quarter, while the admissions during the warm months of April, May, and June rose to 20. Four out of 7, or more than one-half the entire cases, were admitted during the autumn of 1881. Simple continued fever was very prevalent during the month of July, 1881, 18, or nearly one-third of the entire number, being admitted during that month. A large number of the admissions was from the South Dublin Workhouse. An epidemic of measles prevailed between the months of December and April, during which period 147 cases were admitted; but 1 case was admitted in November, the number rising to 34 in December, and increasing to 73 in January. The following month the admissions fell to 16, decreasing still further to 9 in March, and rising again to 15 in April; only 4 cases were admitted during the months of May and June. Of the infectious nature of this disease *at least* there can be no controversy—123 cases, as mentioned before, being admitted from the nurseries of the South Union Workhouse, where the children were probably in more immediate relationship during the winter months. During the last six months no cases of scarlatina were admitted. The largest number of admissions (6) occurred in the month of September, 4 of them being members of one family. Six cases of pneumonia, or about one-sixth of the entire number, were admitted in December, being three-eighths of the number admitted for the six months then ending; 19 cases, including 5 in February and 5 in April, or about four-sevenths of the entire number, were admitted during the second half of the year. No cases were admitted during the month of September, and but 1 in January.

The largest number of cases (127, or about two-sevenths of the entire number) occurred in children under five years old; the smallest (10, or about one-fortieth) in persons over sixty years. The second largest in point of number (84, or about one-fifth) occurred between twenty and forty years. The largest number of

typhus cases (46, or about one-third) occurred between ten and twenty years; the smallest number (4, or one-thirty-seventh) in subjects above the sixth decade; 8 cases, or about one-eighteenth, occurred in children under five years old; 29, or about seven-thirty-sevenths, between the ages of five and ten years; 40, or about four-fifteenths, between twenty and forty years; and 21, or about one-seventh, between forty and sixty years. Three-sevenths of the enteric cases occurred in persons between the ages of forty and sixty years; and two-sevenths each between the ages of five and ten and ten and twenty years respectively. The largest number of cases of simple continued fever (22, or about two-fifths), occurred between twenty and forty years; the next in point of number (13, or about six-twenty-fifths), between the ages of ten and twenty years. The great majority of cases of measles (113, or about nineteen-twenty-sixths) occurred in children under five years; 23, or about two-thirteenths, between five and ten years; 10, or about one-fifteenth, between ten and twenty years; 6, or about one-twenty-sixth, between twenty and forty years; while 1 occurred between forty and sixty years, and 1 over sixty years. Of scarlatina, four-elevenths of the entire number occurred in children under five years; five-elevenths between the ages of five and ten years; and one-eleventh each between the ages of ten and twenty and twenty and forty years respectively.

TABLE III.—*Showing the Ages at which Six Principal Diseases occurred for the Year ended June 30, 1882.*

Diseases	Under 5 years	Above 5 and under 10 years	Above 10 and under 20 years	Above 20 and under 40 years	Above 40 and under 60 years	Above 60 years	Total
Typhus Fever, - -	8	29	46	40	21	4	148
Enteric Fever, - -	—	2	2	3	—	—	7
Simple Continued Fever,	2	6	13	22	7	1	51
Measles, - - -	113	23	10	6	1	1	154
Scarlatina, - - -	4	5	1	1	—	—	11
Pneumonia, - - -	—	3	6	12	10	4	35
Total, - - -	127	68	78	84	39	10	406

Nearly one-third of the cases of pneumonia occurred between twenty and forty years; two-sevenths between the ages of forty and

sixty years; nearly one-sixth between the ages of ten and twenty years; nearly one-ninth in subjects over sixty years; and nearly one-twelfth in children between the ages of five and ten years.

**TABLE IV.**—*Showing Total Mortality during the Year ended June 30, 1882, as compared with the two preceding Years.*

Diseases	For Year ended 30th June, 1882			For Year ended 30th June, 1881			For Year ended 30th June, 1880		
	Total No. of Cases	Total No. of Deaths	Mortality per cent.	Total No. of Cases	Total No. of Deaths	Mortality per cent.	Total No. of Cases	Total No. of Deaths	Mortality per cent.
Typhus Fever, -	148	23	15·5	212	37	17·5	22	4	18·2
Enteric Fever, -	7	—	—	9	1	11·1	12	1	8·3
Simple Continued Fever,	51	—	—	91	1	1·1	62	1	1·6
Measles, -	154	40	26·0	41	5	12·2	94	14	14·9
Scarlatina, -	11	1	9·1	33	5	15·1	27	5	18·5
Pneumonia, -	35	7	20·0	45	10	22·2	42	8	19·0
Hydrocephalus, -	—	—	—	—	—	—	1	1	100·0
Diphtheria, -	—	—	—	1	1	100·0	—	—	—
Acute Rheumatism	18	—	—	10	1	10·0	7	—	—
Phthisis, -	8	1	12·5	—	—	—	—	—	—
Pleuritis, -	5	—	—	7	—	—	5	1	20·0
Bronchitis, -	25	5	20·0	4	1	25·0	8	1	33·3
Pleuro-Pneumonia,	1	1	100·0	—	—	—	—	—	—
Gastric Ulcer, -	—	—	—	—	—	—	1	1	100·0
Diarrhoea, -	3	1	33·3	—	—	—	—	—	—
Chronic Bright's Disease,	4	3	75·0	—	—	—	—	—	—
Heart Disease, -	4	1	25·0	—	—	—	—	—	—
Erysipelas, -	14	2	14·3	—	—	—	—	—	—
<b>Total, -</b>	<b>488</b>	<b>85</b>	<b>17·4</b>	<b>453</b>	<b>62</b>	<b>13·7</b>	<b>276</b>	<b>37</b>	<b>13·4</b>

The total number of deaths, nearly 17½ per cent., is considerably higher than that for the two preceding years, being nearly 3½ per cent. in excess of the preceding year, and about 4½ per cent. for the year 1879-80. This excess is mainly attributable to the mortality from measles, which amounts to nearly one-half of the

entire deaths. The deaths from typhus fever, which amount to nearly 15 per cent., are  $2\frac{1}{2}$  per cent. less than the preceding year, and  $3\frac{1}{2}$  per cent. less than those for the year 1879-80. If from the total number of deaths (23) are deducted 9 cases, which were admitted dying, or died within 24 hours after admission, they will be reduced to 14, which will give a mortality of about  $9\frac{1}{2}$  per cent., or 1 in  $10\frac{2}{3}$ , showing a decrease of nearly 8 per cent. as compared with the preceding year, and about 9 per cent. with the year 1879-80. Exclusive, however, of these reductions, the mortality from the disease is shown to be on the decrease. The mortality from measles, about 26 per cent., is very large, being nearly 14 per cent. in excess of the preceding year, and 11 per cent. in excess of the year 1879-80. The number of cases is, however, much larger, being 113 in excess of the preceding year, and 60 in excess of the year 1879-80.

TABLE V.—*Showing the Deaths in each Month, and the Diseases which caused them, for the Year ended June 30, 1882.*

Diseases	1881						1882						TOTAL
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	
Typhus Fever . . . . .	5	2	3	1	4	—	4	—	—	2	1	1	23
Measles . . . . .	—	—	—	—	—	5	23	8	2	2	—	—	40
Scarlatina . . . . .	—	—	1	—	—	—	—	—	—	—	—	—	1
Erysipelas . . . . .	—	—	—	—	—	—	—	1	—	—	—	1	2
Pneumonia . . . . .	—	1	—	1	—	—	—	1	—	2	—	2	7
Pleuro-pneumonia . . . . .	—	—	—	—	—	—	—	1	—	—	—	—	1
Bronchitis . . . . .	—	—	—	—	—	1	1	—	1	1	1	—	5
Phthisis . . . . .	—	—	—	—	—	—	—	—	—	—	1	—	1
Diarrhoea . . . . .	—	—	1	—	—	—	—	—	—	—	—	—	1
Chronic Bright's Disease . . . . .	—	—	—	—	1	1	—	—	1	—	—	—	3
Heart Disease . . . . .	—	—	—	—	—	—	1	—	—	—	—	—	1
Total . . . . .	5	3	5	2	5	7	29	11	4	7	3	4	85

But 1 death occurred from scarlatina out of 11 cases. The mortality from pneumonia, 20 per cent., or 1 in 5, is  $2\frac{1}{2}$  per cent. lower than that for the preceding year, and about 1 per cent. in excess of that for the year 1879-80. Five deaths occurred

from bronchitis out of a total of 25 cases. Three of these occurred in subjects over 50 years, the average age being nearly 45 years. The deaths from this disease are 5 per cent. lower than those for the preceding year, and  $13\frac{1}{2}$  per cent. than those for the year 1879–80. Two deaths resulted from erysipelas—one occurring in a patient 63, and the other in one 51 years of age.

The largest number of deaths, 29, or nearly one-third of the entire number (principally resulting from measles, which formed nearly four-fifths of the total deaths for the month), occurred in January. Fifteen deaths ensued from typhus during the first six months of the year, the mortality from this disease falling to 8, or nearly one-half, for the second six months. The disease was most fatal in the month of July, in which 5 deaths, or nearly a fifth of the entire number, took place. During the months of November and January 8 cases proved fatal. No deaths occurred from this disease during the months of December, February, and March, and but two during the months of May and June. The mortality from measles in the month of January exceeded that from all causes for the previous six months. In this month alone nearly three-fourths of the total deaths from this disease during the year occurred. The deaths from measles for the preceding and following months formed one-eighth and one-fifth respectively of the entire deaths from this disease. No deaths occurred from measles during the first five and last two months of the year. The only death from scarlatina was registered in the month of September.

**TABLE VI.**—*Showing Total Number of five Principal Diseases, with Total Mortality occurring in either Sex for the Year ended June 30, 1882.*

Name of Disease	Total No. of Cases	Males			Females		
		No. of Cases	No. of Deaths	Mortality per cent.	No. of Cases	No. of Deaths	Mortality per cent.
Typhus Fever - -	148	85	16	18·8	63	7	11·1
Enteric Fever - -	7	4	—	—	3	—	—
Scarlatina - -	11	4	—	—	7	1	14·2
Measles - -	154	89	29	32·6	65	11	16·9
Pneumonia - -	35	26	7	26·9	9	—	—
Total - -	355	208	52	25·0	147	19	12·9

Five-sevenths of the mortality from pneumonia occurred in the second half of the year, including two deaths in April and two in June. All the deaths from bronchitis occurred between the months of December and May, comprising one death for each month, that of February excepted. One death from diarrhoea took place in September.

The total number of the above five principal diseases occurring in both sexes during the year, amounted to 355. Of these 208, or about three-fifths, occurred in the male sex, with a mortality of 25 per cent. The total female mortality amounts to nearly 13 per cent., leaving an excess on the male side of about 12 per cent., the total male mortality being nearly double that of the female. About 57 per cent. of typhus occurred in the male sex, and nearly 43 per cent. in the female. The male typhus cases exceeded the female by 22, or about 14 per cent., and 9 deaths occurred in the males more than the females. The male mortality exceeds the female by about  $7\frac{3}{4}$  per cent. Thirty-one cases were admitted from the South Dublin Union, of which 4, or nearly 13 per cent., died. The enteric cases in the male are about 17 per cent. in excess of the female; and scarlatina is in excess in the female by about 27 per cent. Nearly 58 per cent. of measles occurred in the males, and about 42 per cent. in the females, with an excess of about 16 per cent. in favour of the males. The male deaths were 18 in excess of the female. The mortality in the males is about 75 per cent., in the females about 25 per cent., showing the immense preponderance of about 50 per cent. in the male mortality. I can in no way account for the difference, the mortality occurring for the most part in infants and children of tender years, and pretty similarly circumstanced as regarded physique (which was in the main distinctly below the average), hygienic surroundings, &c. The deaths in most instances were due to pulmonary complications, some seven or eight cases succumbing at a later period to an induced cachexia. The great bulk of these children were admitted from the South Dublin Workhouse, the offspring in many cases of depraved parents, many of them the subjects of syphilis and other evidences of very irregular lives, which accounts for the great total mortality. From the South Dublin Workhouse 123 cases, for the greater part infants at the breast, were admitted, the mothers being generally admitted with them. There was no overcrowding, the extensive range of hospital buildings affording very ample accommodation. Thirty-eight deaths, or  $30\frac{1}{2}$  per cent.,



occurred among this number; while of 30 cases admitted from the city and elsewhere, but 2 deaths, or 6½ per cent., occurred, showing an excess of nearly 24 per cent. in favour of the workhouse children. I find, on reference to the return of Cork-street Fever Hospital for the year ended March 31, 1881, kindly given me by Dr. J. W. Moore, that of 18 children admitted into that institution from the South Dublin Union Workhouse in January, 1879, 9, or one-half, died. The mortality in the North Dublin Union has been very large during the late epidemic. I am not aware if the same disparity has been noticed in the mortality occurring in the Workhouse children and outsiders, or if the comparative mortality in the sexes has been so marked. Seventy-four and two-sevenths per cent. of pneumonia occurred in males, and 25½ in females. Of the males 7, or nearly 27 per cent., died; no deaths occurred among the females. The male cases are much more numerous. In the last Report made of this hospital the male cases were 63 in excess of the female; but whereas the mortality in the former was but 14 $\frac{1}{10}$  per cent., or about 1 in 7, that of the latter amounted to 46 $\frac{3}{10}$  per cent., or the very large proportion of nearly 1 in 2. In 18 cases the left lung was affected, with 3 deaths, 1 supervening within 24 hours after admission; in 14 the right lung was attacked, with 2 deaths; while in 3 cases both lungs were affected, with 2 deaths, both occurring within 24 hours after admission into hospital.

**TABLE VII.**—*Showing the Number Admitted and Dead of Typhus Fever at different Ages for the Year ended the June 30, 1882.*

Ages (Years)	No Admitted	No. Died	Mortality per cent
Under 5            -       -       -	7	1	14·3
Above 5 and under 10   -       -	30	2	6·7
Above 10 and under 20       -	48	2	4·2
Above 20 and under 40       -	38	4	10·5
Above 40 and under 60       -	21	12	57·1
Over 60            -       -       -	4	2	50·0
Total               -       -       -	148	23	15·5

The foregoing table strengthens our experience with regard to

typhus—that the mortality increases with increasing years. The deaths in children and young persons under 20 years are only 5 in 85 cases, equivalent to  $5\frac{1}{17}$  per cent., or 1 in 17; for the next 20 years they amount to 4 in 38, nearly  $10\frac{1}{2}$  per cent., or 1 in  $9\frac{1}{2}$ ; for the period between 40 and 60 years 12 deaths occurred out of 21 cases, raising the mortality to  $57\frac{1}{7}$  per cent., or 1 in  $1\frac{1}{4}$ ; and of 4 cases occurring in subjects over 60 years, one-half had a fatal termination.

TABLE VIII.—*Showing the Number of Cases of Enteric Fever Admitted at different Ages for the Year ended June 30, 1882.*

Ages (Years)	No. Admitted	No. Dead	Mortality per cent.
Under 5           -       -       -	—	—	—
Above 5 and under 10   -       -	2	—	—
Above 10 and under 20       -	2	—	—
Above 20 and under 40       -	3	—	—
Above 40 and under 60       -	—	—	—
Above 60           -       -       -	—	—	—
Total               -       -	7	—	—

The theory that the increased mortality in the commencement of epidemics is attributable to the weakly and aged (those whose vital powers are most depressed) being first attacked, seems to be borne out, as the cases occurring in individuals over 60 years old only amount to 4, or  $\frac{1}{37}$  of the entire admissions from this disease. Taking the actual number of cases into consideration, the largest mortality occurs in persons between the ages of 40 and 60 years. Retention of urine occurred in 7 cases, 6 of which terminated fatally; 3 were complicated with pneumonia, 1 of which died. In 3 fatal cases convulsions supervened. One death occurred in 4 cases in which bronchitis coexisted. Four patients were affected with hypostatic consolidation of the lungs, of whom 2 died. One patient was confined; in another ovarian dropsy coexisted. Death occurred suddenly in 1 case. Two patients suffered from delirium ferox, both of whom died. Two deaths were attributable to cerebral effusion. In one very severe case extensive bed-sores ensued, with profuse hæmorrhage upon the separation of the

sloughs. Pericarditis supervened in 1 case, persistent epistaxis in another—complications not often observed in this disease. The urine of 23 severe cases, which was tested, contained albumen in 11. In four instances typhus occurred twice in the same subject. They were treated on both occasions in this hospital, and all recovered. The intervals between the first and second accessions are as follows:—In the first, 10 months; in the second, 7 months; in the third, 13 months; and in the fourth, 3 months, the patient being only absent from hospital in the interim about 7 weeks.

**TABLE IX.**—*Showing the Number of Cases of Scarlatina Admitted and Dead at different Ages for the Year ended June 30, 1882.*

Ages (Years)	No. Admitted	No. Dead	Mortality per cent.
Under 5       -       -       -       -	4	—	—
Above 5 and under 10       -       -	5	1	20·0
Above 10 and under 20       -       -	1	—	—
Above 20 and under 40       -       -	1	—	—
Above 40 and under 60       -       -	—	—	—
Above 60       -       -       -       -	—	—	—
Total       -       -       -       -	11	1	9·1

**TABLE X.**—*Showing the Number of Cases of Measles Admitted and Dead at different Ages for the Year ended June 30, 1882.*

Ages	No. Admitted	No. Dead	Mortality per cent.
Under 6 months,       -       -       -	18	2	11·1
Above 6 and under 12 months,       -	19	7	36·8
Above 1 year and under 2,       -	50	21	42·0
Above 2 years and under 5,       -	26	3	11·5
Above 5 years and under 10,       -	23	4	17·4
Above 10 years and under 20,       -	10	2	20·0
Above 20 years and under 40,       -	6	—	—
Above 40 years and under 60,       -	1	—	—
Above 60 years,       -       -       -       -	1	1	100
Total,       -       -       -       -	154	40	26·0

The mortality in children between 1 and 2 years old (42 per cent.) is nearly 24 per cent. in excess of that (about 18 $\frac{2}{3}$ ) occurring at all the other ages together. The death-rate is next highest (nearly 37 per cent.) in children between 6 and 12 months old. In infants under 6 months the death-rate is comparatively small, being only 11 $\frac{1}{3}$  per cent. From 6 months to 2 years the mortality appears to increase rapidly; between 2 and 5 years the power of resisting the disease seems to increase; and from 5 to 20 years the death-rate again rises, but is 22 $\frac{2}{3}$  per cent. less than that for the period between 6 months and 2 years, and 6 $\frac{2}{3}$  per cent. more than that for the period between 2 and 5 years. No deaths occurred in subjects between the ages of 20 and 60 years; and death took place in the one case above 60 years.

TABLE XI.—*Showing the Number of Cases of Pneumonia Admitted and Dead at different Ages for the Year ended June 30, 1882.*

Ages (Years)	No. Admitted	No. Dead	Mortality per cent.
Under 5 - - -	1	—	—
Above 5 and under 10 - -	2	—	—
Above 10 and under 20 -	6	—	—
Above 20 and under 40 -	18	3	23·0
Above 40 and under 60 -	9	2	22·2
Above 60 - - -	4	2	50·0
Total - - -	35	7	20·0

No deaths occurred in subjects under 20 years of age, and 50 per cent. in persons above 60 years. A slight increase of mortality is observable between the ages of 20 and 40, as compared with the period between 40 and 60 years. Three cases died within a few hours after admission into hospital. With the remaining 32 cases I adopted the treatment by tartarated antimony, in doses ranging from a quarter of a grain, increased to one grain every 3 hours; and in 4 cases, all of which recovered, I resorted to moderate venesection. Deducting the 3 cases admitted in an almost hopeless condition, the total mortality amounts to only about 1 in 9.

Of the 18 cases of acute rheumatism, one was complicated with

pericarditis, 2 with endocarditis, and one with peri-endocarditis. The salicylic treatment was generally adopted.

One sick attendant contracted typhus, and 4 patients measles while under treatment for other ailments. One nurse was affected with enteric fever.

*Analysis of Cases Admitted beyond Recovery for Year ended June 30, 1882.*

No.	Duration in Hospital	Disease	Notes
1	1 day	Typhus Fever	Very bad on admission.
2	18 hours	Pneumonia	—
3	2 days	Typhus Fever	Very bad on admission.
4	18 hours	Do.	—
5	2 days	Do.	—
6	17 hours	Do.	Dying on admission.
7	16 hours	Do.	Do.
8	1 day	Measles	—
9	8 hours	Do.	Dying on admission.
10	2 days	Bronchitis	Admitted very bad.
11	1 day	Typhus Fever	—
12	14 hours	Pneumonia	Dying on admission.
13	10 hours	Do.	Do.
14	9 hours	Typhus Fever	Do.
15	15 hours	Bronchitis	—
16	20 hours	Typhus Fever	Dying on admission.
17	8 hours	Measles	Do
18	12 hours	Do.	Do.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Experimental Physiology: its Benefits to Mankind. With an Address on Unveiling the Statue of William Harvey at Folkestone, 6th August, 1881.* By RICHARD OWEN, C.B., M.D., F.R.S. London: Longmans, Green, & Co. 1882. Pp. 216.

PROFESSOR OWEN used to be known to his adversaries as a hard hitter, and in this work he smites with no unsparing hand the anti-vivisectionists. For these mischievous and irrepressible persons he has devised a new name, which seems to have given offence to some of those to whom it was applied, but which its author shows to have been constructed in accordance with the strictest rules of scientific nomenclature. As *humanitarian* signifies those whose acts, speech, and writings relate to the good of human beings, so those who work, speak, write, subscribe, and prosecute their kind in behoof of brute-beasts are called *bestiarian*.

It is not, however, for the purpose of chastising the bestiarians that the book before us has been written, and still less for the purpose of convincing by argument those persons whose minds move in a region of sentiment in which ordinary logic and the weight of evidence can find no place, but in order to instruct the minds of the public who may be supposed for the most part to still retain a certain amount of soberness of judgment, and who, when they see on the one hand the whole scientific world, and on the other the Victoria-street Association, will not at once accept as true all that appears in the publications of the latter body, but will look for evidence on the other side if it is made easy of access to them.

Such evidence has lately been given in numerous papers and pamphlets, and is to be found in plenty in Dr. Owen's work. The Address with which it commences, and indeed the greater part of the book, deals with Harvey and his fundamental discovery. It is shown by numerous quotations from Harvey's works and from the works of his contemporaries that before Harvey the circulation of

the blood was unknown, that it was not and could not have been discovered by any reasoning from known anatomical facts, and that the discovery was made in the only possible way—namely, by experiments on living animals, experiments varied and frequently repeated and performed on animals of different species. Dr. Owen justly complains of the literary ignorance displayed by anti-vivisectionists, and instances Miss Cobbe's extraordinary sentence, "By some fatality I have never read of any vivisectional experiments on fishes at all." He goes on to quote passage after passage from Harvey's works in which experiments on fishes are mentioned. Yet Miss Cobbe, who shows not only that she has not read Harvey's works, but that she is equally ignorant of general physiological literature, presumes to lay down the law on the uselessness of physiological experiments, and, on the authority of a very eminent surgeon, makes the ludicrous statement that the circulation of the blood, which of course includes the movements of the heart, could have been discovered by injection of coloured size into the arteries of a dead body.

The discovery of Harvey is so great and fundamental as to justly claim the first place in any review of the gains to humanity from the practice of vivisection. But Dr. Owen discusses the works of other physiologists, and shows abundantly how in all diseases, from aneurism to toothache, improvements in treatment result from experimental researches made on animals. The injustice which has been done to the labours of Harvey, Hunter, and many others is forcibly shown, and the fallaciousness of the attempts to demonstrate that their discoveries could have been made by other means than by vivisection is clearly pointed out. The unscrupulous means which have been employed by the opponents of vivisection to inflame the minds of the lower classes against physiologists are strongly and deservedly condemned.

As a contribution to the unfortunately too abundant literature of the vivisection controversy this work is, we think, very valuable. It not only points out clearly and forcibly the good which has resulted to both men and animals by physiological experiments, but it exposes unsparingly the ignorance and self-sufficiency, and often worse qualities, of the bestiarrians. It has been too much the habit to speak of the anti-vivisectionists as well-meaning but mistaken persons; but in our judgment if they are mistaken it is because they will not be undeceived; they grope in darkness because they wilfully close their eyes to the light; and much of

their action is such as could not have been taken by well-meaning people. Anyone who has some acquaintance with the physiologists of this and of other countries, anyone whose privilege it is to know some of those men whose lives have been spent in the discovery of truth by physiological investigation, will know the wicked absurdity of the statement that the practice of experimenting on animals debases the mind and hardens the heart of the experimenter. Yet, although the falseness of this is well known to the members of the Victoria-street Society, they do not cease to vilify and persecute physiologists, and by every means to excite popular feeling against a class of men to whom the world is every day more and more indebted. In this, as in many other things, they show themselves not well disposed, but very much the reverse.

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*The Physiology and Pathology of the Blood ; comprising the Origin, Mode of Development, Pathological and Post Mortem Changes of its Morphological Elements in Mammalian and Oviparous Vertebrates.* By RICHARD NORRIS, M.D., F.R.S.E. London : Smith, Elder & Co. 1882. Pp. 274.

SOME time ago a good deal of interest was excited by the announcement of the discovery of formed elements in the blood, differing from both the red and white corpuscles. This interest, however, does not seem to have been sustained, and the attention which the observations of Dr. Norris received has been, we think, less than they deserved. This can hardly continue any longer to be the case, as in the work before us the author has brought together the whole of his observations and experiments, and has developed a theory of the formation of the red corpuscles of the blood which, whether it be true or false, is at all events intelligible and consistent.

It was when making micro-photographs of the blood that Dr. Norris first became aware of the existence in this fluid of corpuscles which resembled the red corpuscles in form and size, but which were perfectly invisible to ordinary observation in consequence of being colourless, and of possessing the same refractive power as the liquor sanguinis. These "invisible corpuscles" were, however, apparent on the photographic plate, and by numerous ingenious methods Dr. Norris has succeeded in making them accessible to direct observation. For the details of these methods we must refer to the original, stating generally that they consist, for



the most part, either in separating the corpuscles from the liquor sanguinis, in altering the refractive power of the latter, or in staining either the liquor sanguinis or the corpuscles themselves. By these methods the author has satisfied himself that there exist in the blood large numbers of biconcave discs, which are perfectly colourless, and, under ordinary circumstances, invisible, and that between these and the perfect red corpuscles all degrees of transition as to colour and visibility are found.

It has been objected to the author that his corpuscles were merely ordinary red corpuscles, which had discharged their colouring matter in consequence of the violence done to them in making the preparations. These criticisms are considered at great length, but our limits will not allow of our giving the arguments for or against either view.

Passing to the origin of the newly-discovered bodies, Dr. Norris propounds the following theory:—The spleen, lymphatic glands, and other “lymphoid organs” (among which are included not only the thymus and bone marrow, but also the thyroid gland and supra-renal capsules), form corpuscles which are not, as is generally supposed, round, but flattened discs, slightly less in diameter, but thicker than the red corpuscles of the blood. These discs are of two kinds—one is granular, and consists of a nucleus surrounded by a certain quantity of protoplasm; the other is more translucent, somewhat smaller, and consists of the nucleus only. These two bodies are really two stages of the same, the former or primary lymph disc being an earlier stage of the second or advanced disc. The development which these bodies undergo in the lymphoid organs consists, for the most part, in the loss of their protoplasm. Both these bodies pass into the blood, but the advanced disc in by far the greater numbers. The advanced disc, on entering the blood, becomes invisible—whether in consequence of change in itself, or because of the difference in the refractive powers of the liquor lymphæ and liquor sanguinis, is not very clear. It gradually acquires colour, and, after going through the various transitional forms alluded to above, it becomes the perfect red corpuscle. The primary lymph discs develop into the white corpuscles of the blood. These, too, after having circulated in the blood for some time, and having, in many cases, undergone a multiplication of their nuclei, lose their protoplasm, and the liberated nuclei having passed through an invisible stage, acquire colour, and become red blood corpuscles. This latter roundabout

method of development is called the minor, the other the major mode.

In oviparous vertebrates, who possess nucleated red blood corpuscles, these are again developed by a major and a minor mode. The lymphoid organs form granular nucleated corpuscles, and others which are clear and colourless. These latter are the advanced lymph discs, the former are the primary. Both pass into the blood, the advanced discs in greatest quantity. The advanced discs at first appear like naked nuclei in the blood, as the substance surrounding the nucleus is colourless and invisible. It, however, soon acquires colour, and becomes a red corpuscle (major mode). The granular cells are at first the white corpuscles. Their nuclei multiply, and are set free by disappearance of the surrounding protoplasm. The nuclei gradually develop into elliptical colourless cells, which acquire colour and increase in size until they also become red corpuscles (minor mode). The corpuscles developing according to the minor mode are the bodies which have been described by Hayem as hæmatoblasts.

Among the blood-forming organs the red bone marrow presents certain peculiarities. In the young mammalian embryo the red nucleated blood corpuscles are partly derived from the colourless cells of the marrow, which become coloured *in situ*. At a later period these coloured nucleated cells are converted in the marrow into red discs (*i.e.*, non-nucleated red corpuscles), while at the same time the formation of red discs by coloration of naked nuclei begins; but this assumption of colour takes place not, as usually occurs, in the blood, but in the marrow, before the passage of the corpuscles into the circulation. In most animals after birth the formation of red corpuscles in the marrow completely ceases, and from the marrow colourless nuclei pass into the circulation, to be there developed, as described above. In some few animals, however, as, for instance, the guinea pig, the formation of red discs in the marrow from red nucleated cells persists to a certain extent throughout life; and such a mode of formation may in any mammal occur abnormally as a reversion to the embryonic type. These views differ, as will be seen, very materially from those either of Neumann or of Rindfleisch, whose observations are very fully discussed in the text.

That the corpuscles of the blood and lymph take a considerable part in coagulation and the formation of fibrin has been of late a favourite theory. Schmidt supposed that the formation of fibrin

is preceded by the breaking up of granular bodies, which he looks on as transitional forms between red and white corpuscles. Zahn professes to have observed, *de visu*, in the vessels of the mesentery of the frog the formation of a white thrombus from the white corpuscles, while Mrs. Ernest Hart has recently maintained that fibrin is as it were spun out of the red corpuscles. Dr. Norris seeks the origin of fibrin in his advanced lymph discs and immature red corpuscles. These very readily break down after withdrawal from the blood, and are consequently described as the fugitive group of discs, to distinguish them from the permanent red and white corpuscles, which do not show this proneness to change. The bodies described by Hayem as occurring in mammalian blood, and named hæmatoblasts, are young red corpuscles belonging to the fugitive group, which have undergone change after withdrawal of the blood. In ovipara, also, the immature red corpuscles are the source of fibrin in the blood.

We have space to notice only very briefly the sections on the pathology of the blood. Leukæmia is considered to be a condition in which, in consequence of a hyperplasia of the lymphoid organs, the primary lymph disc has not time to become deprived of its protoplasm before it passes into the blood—consequently very large numbers of corpuscles undergo their development by the minor instead of the major mode; the result being an increase of the white and a diminution of the red corpuscles in the blood. In anæmia the vitality of the lymph discs is impaired; the red blood corpuscles, consequently, die prematurely before they have acquired their full quantity of hæmoglobin. As a result, the corpuscles are diminished in number, and each corpuscle is deficient in colouring matter; or, as occurs in pernicious anæmia, the formation of discs in the lymphoid organs may undergo great diminution.

At the beginning of the present year Professor Bizzozero published a paper, in which he reported the discovery in the circulating blood of mammals of colourless discs (Plättchen), about one-half or one-third the size of the ordinary red corpuscles. These bodies very soon break up after the withdrawal of the blood, and Bizzozero looks on the fibrin as resulting from their destruction. Dr. Norris claims that these Plättchen are his corpuscles, and a controversy has hence arisen, all the documents connected with which are printed *in extenso* in the appendix to the volume before us. There are certainly great similarities between the Plättchen of Bizzozero and the advanced lymph disc and

fugitive blood disc of Norris; but it is difficult to reconcile the great difference in the respective sizes of the bodies with the view of their identity.

We have given this slight sketch of Dr. Norris's work unaccompanied by any criticism. That, by following the directions given, bodies such as he describes can be seen in the blood there can be no doubt, and that they are immature forms of red blood corpuscles is very probable, and that, being very fragile, they break down after the blood is removed, and take some share in the formation of fibrin is not unlikely; but that they and the red corpuscles generally are free nuclei, and that they are developed in the manner described, is to our mind very doubtful, and demands the fullest confirmation before it can be accepted. The work of Dr. Norris, is, however, full of interest, and cannot fail to materially advance our knowledge of the very obscure subject with which it deals.

In conclusion we must notice the manner in which the work is illustrated. There are 23 plates, comprising 196 microphotographic figures, most of which are of great beauty and perfectness.

*Clinical Lectures on Diseases of the Heart and Aorta.* By GEORGE WILLIAM BALFOUR, M.D. St. And., F.R.S. Ed. Second Edition. London: J. & A. Churchill. 1882. Pp. 469.

THE first edition of this work appeared in 1875. The present edition has been almost entirely re-written, and is somewhat enlarged. An attempt has been made to explain the action and to formulate rules for the use of digitalis in disease of the heart, which cannot fail to prove useful to practitioners.

In the treatment of disease of the heart, digitalis is the one remedy which is to be regarded as a tonic and stimulant of the organ. Foxglove, or more properly Folk's glove—the Fairies' glove—is mentioned in Saxon writings of the eleventh century; it had no Latin name till 1535, when Fuschius, Professor of Medicine in Tübingen, gave it the name of digitalis—a translation of its German name, Finger-hut—which it still retains. In weak hearts, and in all hearts affected with valvular disease of whatever nature, in which compensation is imperfect, the tendency is to death from asystole, that is, to death with the heart in diastole from failure of its contractile power. The key to the manner in which digitalis acts is this—viz., that while it slows the heart's action it also increases the strength of the ventricular systole, and diminishes the amount of

diastolic dilatation. Digitalis may be made to act pretty much as we wish, and by appropriate dosage a patient may be enabled to take it continuously for years with nothing but increasing benefit, or he may be compelled to give it up after but a few doses, from symptoms of incipient poisoning. The cumulative action ascribed to digitalis is simply a result depending on the relation between absorption and elimination common to it and to many other drugs. If we wish simply to improve the nutrition of the heart, we must give only a tonic dose, and give it so that it has only a tonic action; that is to say, we must give a dose just large enough slightly to increase the force of the cardiac systole, without appreciably showing the rate of contraction, and we must repeat this at such an interval as will secure that its *action* has passed entirely off, though its *effect* still persists. The *action* of such a dose is the slight augmentation of the force of the cardiac systole, with the trifling but not unimportant increase in the blood tension within the coronary arteries resulting from it; while the *effect* is the improved nutrition of the muscular fibres and ganglia of the heart, which it is our object still further to promote by a renewal of the dose neither too quickly repeated nor too long delayed. By this mode of administration we secure a gradual improvement in the nutrition of the cardiac muscle, as well as an increase in the reserve power of the ganglia, so that by slow and imperceptible degrees a weak heart is made a strong one. If we wish to contract the heart or to remove dropsy, we must, whatever dose be given, repeat it at short intervals, so that the *action* of each dose may be reinforced by that following it, until the desired result be obtained. Some are more sensitive to the action of digitalis than others. Bulky and plethoric people are less rapidly saturated than the feeble and anæmic. Inflammatory conditions seem to inhibit more or less the action of this drug.

The powdered leaves of digitalis are not now regarded as superior, in any way, to a well-prepared infusion or tincture. The action of any preparation may be reasonably calculated by the number of grains of powdered leaves it represents. Nativelle's granules, each containing  $\frac{1}{4}$  of a milligramme, or about  $\frac{1}{80}$  of a grain of crystallised digitaline, are quite reliable, and each equivalent to rather more than one grain of the crude drug. They seem to be less liable to excite nausea than other preparations, and are invaluable for hypodermic injection. When we wish to remove dropsy, or contract a dilated heart, the digitalis should be given at short intervals, and in the larger doses according to the urgency of the case. Nothing but

good will follow, provided we stop the moment the urine falls, the pulse slows, or nausea occurs. When saturation is produced, the heart sometimes becomes so contracted that its sounds are reduced to a toneless tictac, at other times we have the *pulsus bigeminus*, or the allorhythmic pulse of digitalis poisoning, conditions not dangerous in themselves, provided the drug is at once stopped and the recumbent position enjoined. On theoretical grounds Dr. Brunton has objected to the use of digitalis in fatty hearts, lest some of the degenerated fibres should be accidentally ruptured. It is true that a string of oil globules has but little cohesion at any time, but we all know how difficult it is to diagnosticate a fatty heart, and that by far the larger proportion of hearts having a feeble impulse, are only weak and dilated and not fatty, and as such are hearts which peremptorily require the free use of digitalis, and are much benefited by it. Dr. Balfour is of opinion that, for our patient's sake, we are quite justified in treating all apparently fatty hearts as weak ones, in face of the great difficulty of diagnosis and the theoretical grounds of the objection.

The chapters on the treatment of aneurism by iodide of potassium, and upon angina pectoris are full of information and interest.

The book is one of the best worth reading on cardiac disease and its treatment which we have seen.

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### WORKS ON DISEASES OF THE SKIN.

- *A Practical Treatise on the Diseases of the Skin.* By LOUIS A. DUHRING, M.D. Second Edition. Philadelphia: Lippincott & Co. 1881. Pp. 644.

THIS book is pleasant to read and pleasant to review, for it is well done, and is deserving of a cordial reception. The first edition established Dr. Duhring's position to a foremost place among the exponents of dermatology, and this revised edition satisfactorily fulfils the object of its author—to present the subject in the light of the latest researches. Many chapters have been entirely rewritten, and a number of new articles introduced, among which we may call attention to those on urticaria pigmentosa, tuberculosis of the skin, dermatitis exfoliativa, pityriasis maculata, &c. Only fifteen figures illustrate the text, four relating to the structure of the skin and eleven to the parasitic affections. The work is creditable alike to its author and to its publishers, and we can

recommend it as an excellent text-book, freed from unnecessary encumbrances, and written in a scientific spirit.

*Ringworm: its Diagnosis and Treatment.* By ALDER SMITH, M.B., Lond.; Resident Medical Officer, Christ's Hospital, London. Second Edition. H. K. Lewis. 1882. Pp, 166.

A CALL within two years for a second edition of Dr. Alder Smith's little book proves that it has been appreciated as a useful guide by the profession. The first edition was so concise, and withal so satisfactory, that we almost regret to see its successor enlarged to double its size. Some new figures, a list of prescriptions, and an index are added, and the book now forms a complete and practical directory to the diagnosis and treatment of one of the commonest, most insidious, and most intractable of the minor maladies which tax a practitioner's judgment and skill.

*Manual of Diseases of the Skin, with an Analysis of 8,000 Consecutive Cases, and a Formulary.* By L. DUNCAN BULKLEY, M.D. London: J. & A. Churchill. 1882. Pp. 312.

DR. BULKLEY is well known as an active and successful worker in dermatology, and as a voluminous writer of detached essays and short papers in this branch of medical science. He has waited longer than most specialists before producing a text-book on his favourite subject, and this work represents, we presume, the ripe fruit of his experience as a teacher of dermatology. Its aim is a modest one—it scarcely touches upon pathology, and does not pretend to be more than an introduction to larger and more advanced treatises. Within these limits, and in its moderate compass, Dr. Bulkley's manual presents a concise and, as might be expected, reliable compendium of cutaneous affections. It is clearly written, possesses a good index, and includes a short chapter giving useful hints as to the diet and hygiene of diseases of the skin.

*A Treatise on the Materia Medica and Therapeutics of the Skin.* By HENRY G. PIFFARD, M.D. New York: W. Wood & Co. 1881. Pp. 351.

THE title of this work does not accurately indicate its contents, for Part II. on Therapeutics, which forms about two-thirds of the volume, embraces a succinct account of the pathology and diagnosis of diseases of the skin, followed by full details as to the treatment



of each affection. Throughout the entire book, in both parts, the subjects are discussed in alphabetical order.

Part I., on the *Materia Medica* of the Skin, is more novel in its arrangement. Each drug is, wherever practicable, considered under four general heads, indicated by the letters **A, B, C, D.**

Under **A** are placed the effects upon the healthy skin that may follow the ingestion of the drug.

Under **B**, the effects produced upon the healthy skin by the local application of the drug.

Under **C**, the cutaneous affections in which the drug has been found beneficial, when administered internally.

And under **D**, those in which the drug has proved useful, when locally applied.

In this part a great deal of interesting and useful information is collected in a readily available form, and the references relating to medicinal eruptions are fully noted—*e g.*, under *quinia sulphas*, arsenic, chloral, paraffin, &c.

We can recommend Dr. Piffard's treatise as an excellent supplement to the ordinary manuals on diseases of the skin.

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*The Sphygmograph.* By R. E. DUDGEON, M.D. London: Baillière, Tindall, & Cox. 1882. Pp. 72.

In this little work the author aims only at giving a short account of the history of pulse-writing, and of the instruments invented for the purpose; incidentally he indicates some of the uses of sphygmography, and in particular he describes the pocket sphygmograph invented by himself. We think he has hardly done justice to Marey's instrument as modified by Mahomed, and we might even go further and say that he has been too modest in his estimate of the value of pulse tracings. Inventors generally over-estimate their creations, but Dr. Dudgeon has most candidly taken pains to show that the sphygmograph cannot be relied upon to enable us with certainty to discover organic affections of the heart. He might have claimed more for its utility in manifesting the general state of the circulation than he has done. His own instrument is clearly described. From our own experience of it we can testify to the ease and rapidity of its working. Indeed in a short time we expect to see it entirely displace its predecessors. The only fault that can be found with it arises from the very readiness of application for which it has been



deservedly commended. With the older instruments a tracing was a matter often of some little difficulty to obtain, but it was still more difficult to obtain a wrong one. With Dr. Dudgeon's it is so easy to get a sphygmogram that one is subject to the temptation of taking it carelessly, and therefore erroneously. But if half the care and one-fourth of the time required for taking a record by Marey's instrument be given to Dr. Dudgeon's, the latter for all practical purposes will leave no ground for complaint.

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*Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery.* By ROBERTS BARTHOLOW, M.D. London: H. Kimpton. 1881. Pp. 262.

THE result of our examination of this book is, that it is a superfluous treatise, no better and no worse than many kindred works on the same well-worn subject. Dr. Bartholow's purpose was to write a simple, complete, and condensed account of the whole subject of medical electricity. He starts with the proposition (the *Italics* are ours) that some of the existing works on medical electricity "are too voluminous, *others too scientific*, and not a few wanting both in fulness and in accuracy;" and accordingly the author has "attempted in the preparation of this work to *avoid these errors*." Truly, a singular recommendation to favour. The book is divided into the customary six parts:—Electro-physics, electro-physiology, electro-diagnosis, electro-therapeutics, electricity in surgery, and thermo-electricity.

In the section on electro-therapeutics some very questionable assertions are made, which savour more of specialism than of science—*e.g.*, the remarks on the treatment of cerebral congestion, cerebral anæmia, and phthisis.

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*A Handbook of Therapeutics.* By SYDNEY RINGER, M.D. Ninth Edition. London: H. K. Lewis. 1882. 8vo. Pp. 713.

THE merits of Dr. Sydney Ringer's Handbook are too well known to require notice; of its popularity we have the best possible proof in the fact that during the last five years there have been four editions. The present edition differs from its predecessor of twelve months ago chiefly by the larger size of its print. A very slight addition has been made to the article on "Nitro-glycerine." The benefit of salicylic acid as an external application for pruritus vulvæ

and a chart of the diurnal variations of temperature in health are the chief changes in the letterpress. The printer's error "dubor-sea," for "duboisia," still appears in two or three places; and we may notice the continued omission of the value of perchloride of iron in the treatment of scarlatina and rheumatism. Citrate of caffein receives but scanty mention, while several of the more recent remedies for diseases of the skin are not noticed at all. Despite these small deficiencies we have every reason to congratulate Dr. Ringer and the profession on the success of the work.

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*Drugs that Enslave: the Opium, Morphine, Chloral and Hashisch Habits.* By H. H. KANE, M.D. New York. 1881.

UNDER this somewhat sensational title, adorned (?) by a frontispiece of the sculpture of Laocöon struggling in the coils of the serpent, Dr. Kane sets himself to give an account of the effects of opium, morphia, chloral and hashisch, when taken habitually and for long periods. Although Dr. Kane seems to have had a large experience of such cases, the book is poorly written and does not add anything material to our knowledge. In the treatment of a case of confirmed morphia-habit, the author is opposed to the sudden and complete withdrawal of the drug, and expresses himself in favour of the plan of reducing the dose rapidly, until within from four to seven days, or ten days at the most, complete abstinence is secured.

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*Notes on Midwifery, specially designed for Students Preparing for Examination.* By J. J. REYNOLDS, M.R.C.S. Eng. Fcap. 8vo.

MR. REYNOLDS hopes that these notes may assist the advanced student on the eve of examination, but we imagine that they will be more largely availed of by the idle and backward. The former will, at such a time, find his own note-book far more "refreshing to his memory" than that of any other author, whilst the latter will hail with satisfaction a book which professes to contain, in little over 100 pages, the more important parts of the works of Playfair, Leishman, and Braxton Hicks. It is right, however, to inform the student that *a few things* which he may be expected, by his examiners, to know, are not to be found in these "Notes," and for these we would refer him to the original works. We mark also that, with the exception of the three authors from

whose books the "Notes" have been taken, scarcely any authorities are mentioned, whilst their names are prefixed or appended to almost every paragraph. The substitution, in many places, of other names of original observers would relieve the monotony, and add to the value, without increasing the size of the volume.

*Dysmenorrhœa : its Pathology and Treatment.* By HEYWOOD SMITH, M.D., Physician to the Hospital for Women and the British Lying-in Hospital. London: J. & A. Churchill. 1881. Crown 8vo. Pp. 122.

THIS essay is, according to its author, an attempt to elucidate the pathology and treatment of dysmenorrhœa. In it "he has endeavoured to point out the propriety of considering dysmenorrhœa as a symptom not only existing, but also pathognomonic in many disorders of the female, and the necessity therefore of treating not this particular symptom merely, but specially the various diseases of which it is only a symptom."

He discards the usual classification, as fostering the idea that dysmenorrhœa is an uniform pathological condition, or even a phase of mischief arising in various forms, and prefers to pursue his inquiries *seriatim* into the various anatomical regions of the organs of reproduction in the female that present dysmenorrhœa as a symptom.

Commencing with the ovaries, he gives some practical hints on the management of congestion, inflammation, and neuralgia of these organs. "The tilted bed for the relief of pelvic pain" is said to be of great value in the treatment of prolapse of the ovaries. Battey's operation "affords, in some cases of severe dysmenorrhœa, a prospect of cure of which we should not hesitate to avail ourselves." In that form of ovarian neuralgia which arises from masturbation when all other means fail, clitoridectomy—an operation which is, however, from ill-judged performance, avoided by most gynæcologists—affords in some cases the only prospect of cure.

Having briefly glanced at those diseases of the tubes and broad ligaments which may cause dysmenorrhœa, our author comes to the consideration of the diseases of the uterus itself. His treatment of this part of his subject is clear, concise, and practical, especially when dealing with fibroid and fibro-cystic tumours, and polypi; but we are obliged to except his remarks on the use of

pessaries in posterior displacements. The pessary especially recommended for this affection is the Smith-Hodge, which he describes as a Hodge's pessary, "having its posterior aspect more bent upwards than usual," so "*as to support the fundus*." Keeping the uterus in its normal position by the direct pressure of the pessary upon the fundus is, we believe, practically an impossibility; and, as a matter of fact, if the uterus be *in situ*, the fundus can be felt in front of the cervix, and therefore far removed from the posterior bar of the pessary. Dr. Protheroe Smith's "elastic pessary," which is designed to "*keep up a constant lifting pressure on the retroflexed fundus*," illustrates the same mistake in an exaggerated form.

The connexion of dysmenorrhœa with rheumatism, diseases of the liver, constipation, and spanæmia, are briefly described, and the essay concludes with a short account of vicarious menstruation.

Questions as to the etymology of words do not, perhaps, come very immediately within the critical field of view in a notice of an essay on a purely technical subject like the present. Dr. Heywood Smith has, however, been at such pains to instruct his readers as to the correct derivation of the word "dysmenorrhea"—which he spells in this way—and his hypercriticism is so amusingly fallacious that we are tempted to allude to the point. He says (page 3)—"Dysmenorrhea, from *δυσ*, *μήν*, *ῥέος*, signifies hard, difficult menstruation . . . I will here just remark, that I have purposely written 'dysmenorrhea,' as *ῥέος* (rrhea) is better Greek than *the problematical ῥοία* (rrhœa)."

Now it is quite true that *δυσμήνορροια* is not to be found in any classical Greek author, but no one can deny that the word is formed on exactly the same principle as *διάρροια* (diarrhœa). The classical character of this word cannot be impugned. It occurs in Aristophanes, in Plutarch, and, above all, in Thucydides. In the famous and graphic account of the Plague at Athens, by the last-named world-renowned historian (Book II., chap. 49), we read:—

"Ὅστε ἡ διεφθείροντο οἱ πλείστοι ἐν αὐτοῖς καὶ ἐβδομαῖοι ὑπὸ τοῦ ἐντὸς καύματος, ἔτι ἔχοντες τι δυνάμειος. ἢ εἰ διαφύγοιεν, ἐπικατιόντος τοῦ νοσήματος ἐς τὴν κοιλίαν, καὶ ἐλασσεώς τε αὐτῇ ἰσχυρᾷς ἐγγιγνομένης καὶ διαρροίας ἅμα ἀκράτου ἐπιπικτούσης, οἱ πολλοὶ ἕτερον δι' αὐτὴν ἀσθενείᾳ ἀπεφθείροντο."<sup>a</sup>

"So that either most (of the patients) were destroyed on the ninth and seventh days by the feverish heat within, while they yet retained some strength, or, if they (so far) escaped, the disease went down into the abdomen, in which both a violent ulceration was set up, and, an excessive diarrhœa simultaneously supervening, many patients subsequently succumbed to weakness induced by it."

In this passage we have the highest authority for "diarrhœa," and, therefore, why not "dysmenorrhœa"? Besides, Dr. Smith is singularly unfortunate in selecting as a root, *ῥέος*—a poetical word which occurs only in *Æschylus*—and which, being neuter, can never be represented by "rrhea," except in the plural number.

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#### SULPHIDE OF CALCIUM AS AN ANTISUPPURATIVE.

DR. ANDREW H. SMITH, Chairman of the Committee on Restoratives of the Therapeutical Society of New York, furnishes to the *New York Medical Journal and Obstetrical Review* for June, 1882, a report of the Committee on the use of sulphide of calcium for the purpose of preventing or diminishing suppuration. After giving the experience of several members of the Society, Dr. Smith concludes his report as follows:—"Judging from this limited number of cases, it would seem that we are warranted in concluding that in many cases of suppurative affections, ranging from the small pustules of acne to extensive suppurating surfaces, an appreciable, and often a very marked, benefit is derived from the use of the calcium sulphide, suppuration which would otherwise take place being averted, or the quantity and duration of an existing discharge being lessened. At the same time, its action is not uniform; and in many apparently favourable cases it will fail entirely. The drug is somewhat prone to irritate the stomach, and this circumstance affords an indication for small doses frequently repeated instead of larger ones at longer intervals. One-tenth of a grain every two hours in acute cases will generally secure the full therapeutical action of the drug, but larger doses may sometimes be required, and some patients will bear well a grain three or four times a day. Even in small doses the sulphide will occasionally produce headache, and the patient is usually more or less annoyed by eructation of sulphuretted hydrogen."

#### CURING HYDROCELE WITHOUT LOSS OF TIME BY THE PATIENT.

T. L. OGIER has treated successfully a dozen cases of recent hydrocele by a method which causes little pain, and does not confine the patient to his room at all. Instead of drawing off the water and then injecting iodine, he has injected with a hypodermic syringe a half drachm of compound tincture of iodine directly into the sac, allowing the iodine to be diluted by the fluid of the hydrocele. This injection is repeated once or more times at intervals of three or four days, and a suspensory bandage is worn constantly. In every case the result has been a rapid absorption of the fluid and complete cure of the hydrocele.—*Gaillard's Med. Jour.*, and *St. Louis Courier of Medicine*.

S. W.

PART III.  
HALF-YEARLY REPORTS.

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REPORT ON SURGERY.

By WILLIAM THOMSON, M.A., F.R.C.S.I.; Surgeon to the Richmond Hospital; Member of the Surgical Court of Examiners, Royal College of Surgeons, Ireland.

EXCISION OF CALLUS FROM THE CLAVICLE.

A MAN, aged forty-two, fractured his left clavicle and also two ribs on the same side, so that no apparatus could be applied. There was great displacement of the fragments of the clavicle. A large mass of callus was developed, which pressed upon the subclavian artery and the brachial plexus, causing weakening of the radial pulse and formication in the arm. Eight centimetres of the bone and callus were removed by Dr. Delens subperiosteally. The radial pulse returned in normal fulness and force. After three months the strength of the left arm nearly equalled that of the right.—*Archives Générales*, August, 1881; *Lancet*, Nov. 19, 1881.

TREATMENT OF EPILEPSY BY LIGATURE OF THE VERTEBRAL ARTERIES.

Dr. W. Alexander, of Liverpool, again calls attention to this method of treating bad cases of epilepsy (*Med. Times and Gazette*, March 11, 1882), and publishes details of five more cases in which he has performed the operation. He says that in three others he has ligatured both the vertebrals simultaneously without any bad effects, and in none of these have any fits recurred. In all, without exception, the amelioration has been decided, whether we have regard to the reduction of the fits or the improvement of the mental power. No lesions referable to the diminished supply of blood to the spinal cord have been observed, and no deaths have occurred from the operation in any of his cases.

REMOVAL OF GOITRES.

Wölfler in the *Wien. med. Woch*, Nov. 1, 1882 (*Med. Times and Gazette*) mentions that owing to the security given by anti-

septic surgery Billroth has felt himself justified in resuming the operation for the removal of goitres. In five years he has operated 58 times on 55 patients. Forty-eight were cured and 7 died; of these one died of peritonitis, and the other of the bursting of an aneurism. Among the remaining 53 there were five cases of malignant disease of the thyroid. From 1860 to 1876, in the pre-antiseptic period, the mortality was 36·1 per cent.; from 1877 to 1881 the mortality was 8·3 per cent. In five cases tracheotomy was performed, and of these three died, giving a mortality of only 2·3 per cent. for non-tracheotomised patients. Age seemed to exercise no unfavourable influence; one patient was aged sixty-five and recovered.

#### EXCISION OF A STRICTURE OF THE DESCENDING COLON IN THE LUMBAR REGION.

At the March meeting of the Royal Medical and Chirurgical Society, Mr. Thomas Bryant read the record of a case of stricture of the descending colon, in which he excised the diseased segment of bowel through the wound made for a left lumbar colotomy, the patient recovering. The operation was performed on a lady aged fifty, who had suffered from complete obstruction for eight weeks, and was very feeble. The stricture could not be felt from below. The bowel was removed through the oblique incision made for left lumbar colotomy, by simply pulling the segment strictured through the wound, and stitching each portion of the bowel, with its two orifices as divided, to the lips of the wound. The stricture was of the annular kind, and involved about one inch of the bowel; it was so narrow as to admit the passage of a No. 8 catheter. The preparation was exhibited, with microscopical appearances of the growth in section, as made by Dr. Goodhart. Mr. Bryant said he believed the operation he had performed was a new one, and that it was applicable to not a few of the cases of stricture of the descending colon. It had suggested itself to his mind from seeing cases of localised or annular stricture of the bowel which were free and movable, both in operations of colotomy as well as in the *post mortem* room; but the case read was the first in which he had put the suggestion into practice. He suggested that the question of excision of the diseased growth should be entertained as soon as the diagnosis of the case was made, and that, in every case of colotomy for chronic obstruction of the descending colon, the possibility of being able to remove the diseased bowel by operation



should be considered before the bowel was opened for a colotomy operation.—*Brit. Med. Jour.*, April 1, 1882.

#### THE DEVELOPMENT OF OSSEOUS CALLUS.

Marcy, in the *Annals of Anatomy and Surgery* (*London Medical Record*, Feb. 1882), arrives at the conclusion that the doctrine of the formation of the callus—either as taught by Ollier, *i.e.*, as being derived from the osteogenetic layer of the periosteum, or by Billroth, *i.e.*, as being formed by the medulla of the Haversian canals of the extremities of the fractured bone—is untenable.

Professor Ercolani, of Bologna, had already maintained that neither the periosteum nor the extremities of the fractured bone are concerned in the formation of the osseous callus, but that, on the contrary, the periosteum becomes destroyed in the place where the callus is formed. Dr. Marcy finds that the material forming the soft callus in the first days after a fracture is furnished from the blood of the lacerated vessels both of the connective tissue and of other tissues injured, including those of the medulla and Haversian canals. That, however, the part the medulla takes in the formation of the callus is, in some cases, in the long bones, not indispensable, is proved by the fact that, in the bones of birds, which have no medulla, a well-formed callus may be met with. In man and animals, where the fragments of the broken bone are kept apart, the medulla takes no part in the formation of the osseous callus, this being entirely of external origin, and the surfaces of the separated fragments remain inert.

Dr. Marcy, having examined several specimens of healed fractures in animals, and also a large number in man, found definite evidence of atrophy of the extremities of the fractured bone. In fissures, or partial fractures in bones, especially of the cranial vault, there is no new formation taking place from the borders of the fracture, but distinct evidence of absorption and atrophy. These changes may be referred to the destruction of the periosteum at the place of injury.

From a series of carefully conducted experiments on rabbits, Dr. Marcy obtained specimens of fractures of the bones of the leg from the third to the twenty-fourth day. These were injected with blue gelatine solution from the aorta, and, after decalcification, sections were cut therefrom and examined with the microscope. The deductions made from this examination are these—the old periosteum at the point of injury becomes destroyed; the exudation



from the parts surrounding the fracture is well developed, as early as the sixth or eighth day, and covered with a new periosteum. In common with Ercolani, the author finds "that the new periosteum impresses its osteogenetic action on the exuded cellular elements, and that it is by this that they are transformed into bone."

Dr. Klein observes on this:—"From the description of the appearances in the microscopical specimens as given in the paper, it appears that the formation of the osseous callus takes place in essentially the same manner as that described by Billroth—that is to say, the new blood-vessels and the cells of the soft callus, as well as the new periosteum—or, rather, its osteogenetic layer, it seems, are derived from the medullary tissue of the Haversian canals at the extremities of the fractured bone."

#### BOROGLYCERIDE IN OPERATIVE SURGERY.

Mr. Richard Barwell, in *The Lancet* of May 13th, 1882, calls attention to the value of this new antiseptic in wound dressing. He has used it in a few cases with satisfactory results. He uses a watery solution of 1 in 20, and with this he saturates a few folds of lint, then covers it with Mackintosh, and applies a bandage. He thinks we have in boroglyceride an aseptic for wounds, less irritating locally than carbolic acid, free also from the danger of constitutional poisoning. It may be that he has not hit on the best strength of the solution; and certainly some other diluent besides water will be desirable. Nothing, however, can be better than the action of this compound. The intricate and not very safe complications of carbolic treatment—the spray, and all the inconveniences belonging to it—may now be laid aside.

#### DIGITAL EXPLORATION OF THE BLADDER.

Sir Henry Thompson, in reporting four additional cases in which he has with good results explored the bladder with the finger through incision from the perinæum, observes, in *The Lancet* of May 6th, 1882:—

"It is only during the last few years that I have gradually realised the fact that it is possible, in not a few cases, to explore through a small perineal incision the whole, or nearly the whole, of the internal surface of the bladder with the index finger. A necessary condition, of course, is that the bladder should be empty; and in that condition it is—as is sometimes perhaps not sufficiently recognised—no longer a cavity, as represented in diagrams, but a mere cul-de-sac at the end of the urethra.

Taking it for granted that the incisions to be made—which involve only the urethra with the tissues between it and the surface, and not at all the bladder and prostate—enable the operator to place the last joint of his left index finger within the neck and thus to draw it somewhat towards him, the exploration may be accomplished in the following manner:—Maintaining his finger at the spot described, the operator should stand up at the foot of table, a little to the left of the patient (who is in the lithotomy position), so as to make firm pressure with the right hand above the pubes, the resistance of the abdominal muscles being overcome by the influence of ether. He may now easily feel, unless the patient be very stout, the opposite side of the bladder coming into contact with the tip of his finger; and by concerted movements of supra-pubic pressure by the right hand, with slight movements of the left index in the bladder, almost every portion of the internal coat of the latter may be brought under examination. If the patient be thin, the proceeding is easy; it becomes less so in proportion to the depth of perineum and thickness of the supra-pubic coverings, both of which are increased by fat. In the latter case aid may be rendered by an assistant, who makes firm pressure with both his hands, but the operator should also employ, if he can, the concerted movements described.

“Now, I think, it will be admitted that, however effective is the ordinary examination of the bladder by the sound and by rectal examination, and it amply suffices for the great majority of cases, there are still a few obscure examples of disease, respecting which, even in the most experienced hands, examination does not reveal facts which it is of the utmost importance to ascertain. This being so, the question arises—Can digital exploration of the bladder be performed without much risk to the patient? I unhesitatingly answer in the affirmative. The results of external urethrotomy, on a grooved staff previously introduced, an operation largely performed by Professor Syme about thirty years ago—results which were jealously watched and closely scrutinised—go far to warrant this reply. But although the external incisions in his proceeding were almost identical in situation with those I shall advise for digital exploration, the internal incision in Syme’s operation was made not only in tissues very often largely diseased, but was far more extensive than that required for the purpose now in view. To this evidence I may add that I have myself opened the urethra from the perineum many times for various purposes besides that of extracting calculus; and I do not recollect a single fatal result. Fifteen cases of external division of stricture on a staff are included among them. Next, the method of operating in order to reach the bladder from the perineum demands a few words. I think there is little ground for doubting that a vertical median incision—that is, in the line of the raphe—introduces the finger by the shortest and most direct route. The prominence formed

by the operator's bended knuckles, while using his index-finger as an explorer, lies equidistant between the nates, and is firmly pressed on the perineum in a straight line from the external surface towards the centre of the bladder. Any line right or left of the median must of necessity lead obliquely to the centre, and be a longer line, because it commences at a point on the external surface more distant from the neck of the bladder than the raphe of the perineum. Accordingly I always adopt the central incision, using a median grooved staff, and a long, straight, narrow-bladed knife, with the back blunt to the point. Having placed the left index-finger in the rectum the knife may be introduced, edge upwards, about three-quarters of an inch above the anus, with or without a small preliminary incision of the skin (I prefer the former), until the point reaches the staff about the apex of the prostate gland, where it divides the urethra for half an inch or so, and is then drawn out, cutting upward a little in the act, but so as to avoid any material division of the bulb. The left index-finger is now removed from the rectum, and following by the groove of the staff, slowly passes through the neck of the bladder as the staff is withdrawn, when exploration is made, as described above. A moderate division of the bulb when made in the middle line is not to be feared as a cause of hæmorrhage, while an incision involving the side of the bulb, and nearer to the entry of its artery, is more prone to bleed freely. Hence some have preferred another mode of incision in order to avoid it—namely, one crescentic form, with the convexity upwards, just above the anus; the dissection to be carried transversely to the apex of the prostate, and opening the urethra there, as before mentioned."

#### THE COAT-SLEEVE METHOD OF CIRCULAR AMPUTATION.

Mr. Richard Davy, of the Westminster Hospital, London, describes, in the *British Medical Journal* of June 17th, 1882, a modification of the circular method of amputation. A long integumentary sleeve of four or six inches in length is made. Having dissected this carefully down to the deep fascia, the muscles are divided down to the periosteum, which is carefully peeled upwards to the point at which the saw is to be applied. The vessels being secured, a piece of tape is passed round the sleeve near its extremity, and drawn sufficiently tight, the two ends being passed through a small cylinder, which serves to keep the tape in position. The ends of the ligatures are brought out through the crucial slit on the face of the stump. "Treat your wound either with or without dressings—I prefer none—and carefully watch that no undue strangulation of the 'off end' of the sleeve occurs. Should the stump become œdematous, or any necessity of drainage arise,

insert a drainage tube into the centre of the face of the stump of a sufficient firmness to prevent a too-ready collapse of its walls (*e.g.*, a piece of gum-elastic catheter), and allow the excretion to flow into a pledget of marine tow, or some absorbent material. The wound cicatrises up to one-half or one-fourth of an inch, and a central button of depressed scar-tissue results, surrounded by soft, fatty skin-cushions, plaited in a radiating manner from the centre to the circumference of the stump."

#### THE TREATMENT OF GUN-SHOT WOUNDS OF THE ABDOMEN.

Dr. Marion Sims, in a series of papers on this subject in the *British Medical Journal* for Feb. and March, 1882, deals with the unsatisfactory treatment of wounds of the abdominal contents, in view of the successes now achieved in other branches of peritoneal surgery. He believes that what kills in these cases is septicæmia, not peritonitis, and that the danger consists not in opening the peritoneal cavity but in keeping it closed, with its retained fluids, to poison the blood and take the life of the poor sufferer. He says:—

"Look at the history of military surgery from its earliest day to the present moment; and what has it ever done for lesions of the abdominal viscera? Absolutely nothing, if we except a few cases of punctured and incised knuckles of intestine, which, having protruded through the outer wound, were sutured and returned to the cavity of the abdomen. But if we profit by the teachings of ovariectomy and ovariectomists, we shall soon wipe out this reproach. Heretofore, when a man was shot or stabbed in the abdomen, we laid him down, gave opium to arrest pain and peristalsis, and applied "simple dressings," waiting and hoping for it to result in a fæcal fistula. And how rarely did nature gratify our wishes, except when the lower ends of the colon and rectum were wounded! But all this must be changed. In the treatment of perforating shot and other wounds of the abdomen, we should strictly observe the following rules:—

"1. The external wound or wounds should be enlarged as soon as possible, and sufficiently to ascertain the whole extent of the injuries inflicted.

"2. These should be remedied by suturing wounded intestines and ligaturing bleeding vessels.

"3. Diligent search should be made for extravasated matter, and the peritoneal cavity should be thoroughly cleared of all foreign substances, whether fæcal or bloody, before closing the external opening.

"4. The surgeon must judge whether the case requires drainage or not. Generally it will not, if these rules be strictly carried out. We

must not forget that fæcal effusion has taken place after intestinal wounds have been sutured, simply because the surgeon failed to find and suture all the lesions. And we must not forget that fatal results have followed enterorrhaphy when thoroughly done, simply because fæcal effusion had taken place before the intestine was sutured, and had been left in the peritoneal cavity, producing death as speedily and as certainly as if the lesion had not been found and closed. Therefore, it is essential not only to find all lesions and remedy them, but to be sure that we leave the whole cavity of the peritoneum perfectly clean.

“These principles are the foundation of success in all other operations involving the peritoneum, and they must be equally successful when applied to shot and other wounds of the intestinal canal.”

#### NERVE-STRETCHING.

Dr. W. J. Morton, of New York (*Journal of Nervous and Mental Disease*, Vol. IX., January, 1882), reports some cases in which he has stretched nerves in spastic spinal paralysis and other nervous affections. In discussing the subject, he observes:—

“The nerves are very inextensible, therefore it is necessary to stretch long, say three to five minutes; they are very strong, and therefore considerable force must be employed. An analysis of successful cases shows that the nerves had been thoroughly and vigorously pulled upon. But, obviously, in drawing conclusions as to the amount of force used we must also know the instrument with which the nerve was stretched. Strong stretching with the finger would probably produce less rupture of the axis-cylinders than moderate stretching over the edge of a director.

“According to the experiments of Trombetta on the cadaver, the brachial plexus withstood a tension of from 48 to 81 lbs. before breaking or tearing off at the posterior roots; the crural withstood about 83 lbs.; while the sciatic on an average sustained, before breaking, a traction of 184 lbs. Experiments on the cadaver also show that the main strain after the resistance of the natural adhesions to surrounding parts is overcome, is expended upon the posterior roots. In this may lie an explanation of the observation made, that sensation is interfered with to a greater extent than motion.

“Is the spinal cord stretched? Harless and Huber, Valentine and Conrad are cited by Chauvel<sup>a</sup> as saying it is not. But functional disturbances created on the other side of the body, in certain reported experiments, would seem to indicate that the spinal cord is in reality pulled downward. According to Gillette the medulla oblongata in a cadaver was felt to move when the sciatic was pulled down. This observation, if correct, certainly renders the conclusion definite, that we may

<sup>a</sup> Archives Générales de Médecine. Juin, 1881.

hope to influence the cord by the operation, and it is on this supposition that I have operated in a number of cases. In case the cord is stretched, we have still another reason why it is difficult to prescribe the remedial limits of the operation, since its effects are not confined to the territory innervated by the stretched nerve, but extend widely to other nerve territories. It is beyond the province of this contribution to the subject of nerve-stretching to enter into a discussion of the anatomical, physiological, or pathological lesions produced by the operations, or to speculate upon the *modus operandi* of the benefits derived, the cures effected, or the failures reported.

“From my own experience I can simply draw these conclusions :

“First. That moderate stretching of the nerves produces merely a temporary motor paralysis, easily recovered from, and a very considerable paralysis of sensation, likewise easily recovered from.

“Second. That severe stretching produces a marked motor paralysis of long continuance (months), and a tolerably complete paralysis of sensation, much more quickly recovered from than is the motor paralysis. Cases of spasm should therefore be stretched vigorously.

“Third. That profound cutaneous anæsthesia may be removed for several months and perhaps permanently; Case 4.

“Fourth. I have been unable to observe, as has been claimed, that sensibility is relatively lost to a greater extent and more persistently than motion, either by moderate or severe stretching. In my cases motor paralysis has been more persistent than sensory.”

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#### PARAPLEGIA FROM PHIMOSIS; RECOVERY AFTER CIRCUMCISION.

J. H. BLANKS reports a case of a child two years old, unusually healthy, and of healthy parentage, who in September, 1880, became fretful, nervous, and restless, sleeping only a few minutes at a time. These symptoms increased, and in two weeks his gait became unsteady, and finally complete paraplegia developed with some degree of torticollis. Examination determined the presence of phimosis, not, however, to such a degree as to interfere with the free flow of the urine, nor was there any irritation or evidence of inflammation. The introduction of a probe revealed a slight adhesion on one side. On the next day strabismus, sometimes convergent, sometimes divergent, lasting a few minutes at a time, at intervals of two or three hours, was noticed. Circumcision was performed, and in twenty-four hours all the nervous symptoms had subsided. In ten days the child was walking, and in all respects well.—

*St. Louis Courier of Medicine.*

S. W.

**PART IV.**  
**MEDICAL MISCELLANY.**

*Reports, Transactions, and Scientific Intelligence.*

**PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.**

**FORTY-FOURTH ANNUAL SESSION.**

JOHN A. BYRNE, M.B., President.  
WILLIAM ROE, M.D., Honorary Secretary.

*Saturday, June 10, 1882.*

DR. J. A. BYRNE, President, in the Chair.

*Notes on Uterine Fibroids.* By THOMAS MORE MADDEN, M.D., F.R.C.S.E.,  
M.R.I.A.

At the last meeting of this Society I exhibited a somewhat remarkable specimen of fibro-myoma, developed in the posterior wall of the uterus, whence it had grown outwards until it became a subperitoneal tumour, as large as the foetal head at the seventh month. This was removed through the uterus, thereby opening the abdominal cavity, the operation being nevertheless followed by the patient's recovery. I now desire to show other uterine fibroids, also taken from patients in the gynæcological ward of the Mater Misericordiæ Hospital. The first of these is, I think, of interest, as illustrating the special danger of the partial removal of these growths, of which I have before communicated instances to the Society. The second case is an ordinary example of submucous fibroid. The first case was that of the patient whose uterus is now on the table. She was unmarried, aged thirty-eight, and when sent into the hospital was supposed by her medical attendants to be suffering from uterine cancer.

For four years before admission she had been suffering from menorrhagia, obscure pelvic discomfort, the precise seat of which was not accurately defined, and pains, extending down the thighs. Her chief complaint, however, was a continual, somewhat foetid, albuminous vaginal discharge, so profuse as to saturate the napkins she was



obliged to wear, and spread through her underclothing, which, on being dried were, as she expressed it, "as though they had been well starched." This discharge had caused extensive excoriation and soreness of the vulva and thighs. She was wretchedly worn, and presented the peculiar lemon-coloured aspect characteristic of a cancerous patient. At the time of admission her pulse was 120, and weak, her tongue foul, and her stomach so irritable that she could retain hardly any aliment. On examination a fibroid polypus was found projecting through the os; the pedicle could be traced up through the cervical canal, but the inner os was so tightly encircled around it that its uterine attachment could not be ascertained. The sound passed upwards of  $6\frac{1}{2}$  inches into the uterus, and we could discover the presence of a second intra-uterine tumour by external palpation. After she had been a couple of days in the hospital all her symptoms, despite the treatment adopted, became so aggravated—the pulse becoming more rapid and thready, the retching, pain, and discharge increasing—that it was determined to remove as much of the morbid growth as possible. Accordingly the fibroid now shown was easily removed by *écrasement*. But her state of exhaustion after its removal was such that it was obviously impossible that she could live through the long operation of cutting away the second intra-uterine tumour which, as may be seen in the specimen now exhibited, was growing from the fundus and posterior wall of the uterus, to which it is intimately attached, and with which it is continuous throughout its broad base. And for the same reason hysterotomy was here also out of the question. Hence we were perforce obliged to content ourselves with the removal of the pedunculated tumour now shown to the Society, in the hope of being able to remove the second growth by another operation. She was then removed to bed, and rallied sufficiently under the hypodermic injection of ether to swallow a little brandy and beef-tea. That night she slept, and next day expressed herself as greatly relieved by the cessation of the discharge and pain. She was now able to take a little nourishment. Her pulse fell to 100; her temperature never rose beyond  $99.4^{\circ}$ . There was no abdominal tenderness, and in fact she was doing well until, on the fourth day, she began to vomit again, became rapidly exhausted, and died that evening, evidently of septicæmia. On *post mortem* examination the tumour which has been described was found, as may be now seen, developed from the fundus and posterior wall.

The case illustrates the danger of the partial removal of uterine tumours—a fact of which I have narrated some other instances in a paper on Uterine Polypi, read in this Society some years ago.

The second tumour now shown was taken from an unmarried woman aged thirty, admitted into the Mater Misericordiæ Hospital, April 21, 1882. For three years previously she had suffered from menorrhagia. This gradually increased, so that for several months before admission



she had almost continual metrorrhagia, with only a few days' freedom from hæmorrhage each month. On coming into hospital her condition was one of extreme exhaustion, being blanched and exsanguine to a degree, subject to syncope on the least exertion, and complaining much of distressing aortic pulsations, throbbing in the carotids, and tinnitus aurium. There was a marked anæmic murmur, with the second cardiac sound, in the vessels of the neck.

On the night she was admitted the hæmorrhage was so profuse that she had to be plugged, as it was feared that she would die before the morning visit. She was then examined, and a large tumour being found protruding through the os, no time was lost in its removal. Accordingly, with the cooperation and assistance of my colleagues, Mr. Coppinger and Dr. Kennedy, she was put under ether, and the tumour being drawn down by a vulsellum, the pedicle was encircled by a strong steel wire, cut through with the ecraseur, and removed. This tumour, as may be seen, is a fibroid growth, consisting of dense white fibrous tissue, the cortical portion being arranged in concentric circles, and the inner part being in distinct wedge-shaped lobules, radiating from the centre, the structure of which is somewhat less dense, approximating rather to that of a teleangiectic or cavernous myoma. After the division of the pedicle, which was effected as high up as possible, near to its attachment to the anterior wall of the uterus, there was a smart dash of hæmorrhage. This was arrested by the free application of fuming nitric acid followed by hot-water syringing.

On the second night after the operation I was called over to the hospital, as she had suddenly become delirious. Her pulse was then 140, temperature  $102.6^{\circ}$ , and there was well-marked peritonitis. She was poulticed and stuped, and put on aconite draughts, alternating with small doses of mercury with chalk, dried soda, and Dover's powder every third hour. Next morning the abdominal tenderness was less; delirium had subsided; pulse 120, and temperature  $101.2^{\circ}$ . She continued to improve, and is now convalescent.

#### *Ovarian Tumour.*

DR. MACAN.—This is a portion of an ovarian tumour which I removed from a patient, S. L., aged forty, in the City of Dublin Hospital on June 2nd. It differs from ordinary ovarian tumours in being of intra-ligamentous growth. Another point in the specimen worth notice is the curious fungus growth on the inside of the cyst, of which a portion was left behind in the pedicle. The diagnosis made was that it was either an intra-ligamentous tumour or an ovarian tumour with a very short pedicle. As there was no pedicle the only courses open to me were either to enucleate the tumour or to make a pedicle out of the lower part of the cyst. I adopted the latter course, and put in a drainage tube.

The operation was performed antiseptically, but the wound has not remained aseptic. Nevertheless the woman is doing very well, her pulse being 80 and her temperature 98·4°. She had some symptoms of carbolic acid poisoning—viz., black urine—on the second morning. There is still a good deal of discharge from the drainage tube, which has a very disagreeable smell.

*Discussion on Dr. Macan's paper on the "Rational Treatment of Anterior and Posterior Displacements of the Uterus."*

DR. MORE MADDEN.—I would venture to say that I think the mechanical theory of uterine pathology for which Dr. Graily Hewitt is mainly responsible, and of which Dr. Macan's paper is the outcome, has been pressed to a somewhat undue extent. The prevailing view as to the pathological importance of all deviations of the uterus from its normal position is an old theory which has been to some extent revived. At the same time I am by no means disposed to underrate the gravity of such deviations in some cases, as no one can doubt that displacements of the womb are frequently associated with various pelvic diseases and the reflex disorders resulting therefrom. Dr. Macan has attached importance to the consideration of the normal position of the uterus, and it indeed is self-evident that it is necessary to ascertain what the normal or proper position is before we can consider the subject of Dr. Macan's paper. But I differ from him as to what that normal position should be. He adopts the views of a German gynæcologist—Schultze—who says that the uterus when in the normal position is in a state of extreme ante-flexion, lying almost at right angles with the vagina, and pressing down on the bladder in front. But the German authorities to whom Dr. Macan attaches so much importance are authorities whose weight I would venture to question on any matter of this kind. I have had as much opportunity of visiting or residing in the German schools of medicine as most British gynæcologists, and I have no hesitation in saying that in none of the medical schools of that country have they opportunities of studying midwifery and gynæcology comparable with those which we enjoy in this city, except in the large hospitals of Vienna and Berlin alone. In all the small German university towns the professors must draw largely on their imagination for their facts, for they can have no opportunities of seeing disease on a large and extensive scale. Therefore we should accept their conclusions only as far as they are confirmed by our own experience, which in Dublin ought to be sufficiently large. If we wish to go beyond this we should go to the true fountain head of modern gynæcology—namely, the American school, and there the displacement theory is now somewhat at a discount. Thus, for instance, Dr. Thomas Addis Emmet, of New York, who, it need not be observed, is second to no one as an exponent of modern American gynæcology, ascribes to the effects of

laceration of the cervix uteri many of the symptoms formerly ascribed to displacement of the womb. The normal position of the uterus I take to be one of slight ante flexion, for one of extreme ante flexion would necessarily result in the bladder becoming incapable of retaining its contents. We know that if the bladder be pressed on by the weight of any morbid growth or pelvic tumour, distressing incontinence of urine results. The difficulty, if not impossibility, of retaining urine is one of the most generally described symptoms in what has hitherto been regarded as ante flexion of the uterus. The bladder in women is much more capacious than in men, and when it is in a healthy condition they are able to retain their urine for a much longer period than men, and this could not possibly be the case if the normal position of the womb were one of extreme ante flexion. Be that as it may, in the course of my own observations—and I will not yield to any German professor in respect to their accuracy—I have never found the womb in a state of extreme ante flexion without finding some pathological symptom resulting therefrom. As to the rational treatment of displacements it is, I think, a pity that Dr. Macan confined his paper to anterior and posterior displacements, and hence did not allude to what, in hospital practice at least, are the most frequent displacements—viz., procidentia and prolapsus uteri, and their treatment by those old-fashioned, but still very useful, instruments, the annular and disc pessaries. As to the bimanual treatment of retroversion, on which Dr. Macan laid great stress, the plates which he exhibited were no doubt exceedingly interesting. But I for one would be disposed to doubt the possibility of being able to press down my hand in the manner depicted in the drawings shown here, through the abdominal parietes downwards and backwards into the pelvic cavity, in the case of any ordinarily stout, fleshy woman, so as to grasp the fundus and lift it back from its retroverted position into the opposite condition; and whilst I do not question the possibility, I certainly do not think that most practitioners would be easily able to accomplish such an operation. One point of importance, and for calling attention to which Dr. Macan deserves our thanks, is the method of treating retroversion described in his paper, by pinning back the cervix with a pessary and thus securely fixing the fundus in a state of ante flexion. This seems to me a suggestion likely to be of value in many cases of retroversion of the uterus.

DR. PUREFOY.—There are a few points on which I would like to make some remarks. First, with regard to Schultze's theory as to the cause of ante flexion. My own observations have led me to question the accuracy of it. Ante flexion, whether of the body of the uterus alone or of the cervix, is a tolerably common condition. We frequently find it in young patients giving us a history of very good health before they came under

observation. I think it would be important, in discussing ante flexion, to make a difference between ante flexion involving the body of the uterus and the cervix only. Again, as to whether ante flexion should be regarded as a pathological condition or not there seems, in Dr. Macan's paper, a good deal of latitude of opinion. Dr. Hermann read a paper in the Obstetrical Society of London taking the same ground; but, as one of the speakers noticed, his observations were somewhat invalidated by the fact that they were limited to one class of patients only, from whom diseased conditions were rather to be expected than otherwise. Again, Dr. Macan states that chronic metritis gives rise to rigidity of the uterine walls. I cannot say that I have myself made any observations on this point, but a London gynæcologist has written one or two papers tending to the opposite opinion. His statement is that chronic metritis was attended with, or followed by, softening of the uterine tissues, and displacement frequently occurred in consequence. I am sure there is no difference of opinion amongst us as to the value of the bimanual method employed by Schultze for correcting the backward displacement of the uterus. Still I am inclined to think with Dr. More Madden that in this country we should often find it difficult to apply it in the way in which the woodcuts exhibited would indicate. I have found this method of replacing the uterus of most use in cases of retro flexion or retroversion attended with or attending pregnancy. There are two or three modes of treating displacements which I should have been glad to hear Dr. Macan's views about. These are strongly recommended by some foreign gynæcologists—chiefly by our American brethren, whom I regard with a great deal of respect. I agree with Dr. Macan that vaginal pessaries are of very little use in cases of ante flexion; but a number, not alone of American but of Continental gynæcologists also, have published some forty cases of ante flexion which had been treated by means of intrauterine pessaries, and, in a considerable portion of them, with good result. A method of treating displacement of the uterus by plugging the vagina is strongly recommended by some American gynæcologists.

The PRESIDENT.—I think that the criticism which is being bestowed on Dr. Macan's paper shows the great importance that the Society attaches to the subject. I think that anteversion is the normal position of the uterus—i.e., that it floats on the bladder with its anterior surface directed forwards and downwards. But that it has the exaggerated position, which Dr. Macan's paper tends to show, I do not believe. In the unimpregnated uterus we can always feel the lower and anterior portion of the body of the cervix when we introduce the finger in front of the os. Even the introduction of the sound gives sufficient evidence that the natural position of the uterus is one of anteversion. But when we come to speak of anteversion as an abnormality or displacement, in my opinion it is extremely rare. Now, on this subject I remember, at the

London Congress of 1881, and at the Cambridge meeting of the Association In 1880, I ventured to differ in opinion with Dr. Graily Hewitt, who is an earnest and eloquent supporter of the doctrine that displacement is the cause of many grave and tedious sympathetic affections, and who gave a table of cases to illustrate his theory, and who moreover stated that all those sympathetic affections disappeared on the removal of the causes. There is no doubt that in cases where the uterus is enlarged from chronic metritis, and the body of it is heavier than when it is in its normal condition, and in cases of polypus or other tumours, the uterus may be pressed down, and anteversion may be the result. But if there be no enlargement in the uterus it is extremely rare to have anteversion. There is one easy way of testing this, and that is the direction in which the os uteri looks. If it looks directly backwards towards the sacrum we may be certain that there is either anteversion or anteflexion. With regard to retroversion it is a very common displacement, and in my experience very frequently met with amongst unmarried women. I am inclined to think that some of the modern occupations of women, such as the working of pedal sewing machines, are very conducive to it; also the wearing of tight stays, and also perhaps retaining water in the bladder for a very long time may be often the cause of this affection. But although the affection I have last named is very frequent, in my opinion it does not lead to the awful consequences that have been described in the books, and that some eminent gynaecologists have traced to it. In many cases no doubt it is attended with sterility which can be explained on mechanical causes. But I do not agree with the statement that retroflexion induces the numerous sympathetic disturbances which have been attributed to it. I think that there can be no doubt that we ought to endeavour to rectify this malposition once it is ascertained, because if it be allowed to increase in extent it may lead to something more serious still. We therefore should arrive at a correct conclusion as to the best modes of replacing the uterus. For this purpose I think that Schultze's pessary possesses certain advantages over the others. At the same time I do not agree with Dr. Macan as to the non-utility of Hodge's pessary. A pessary if properly introduced does not require to be very tight, and I think that we attach too much importance to the recent changes of shape which have been made in these instruments. The old Hodge's pessary I consider a most useful one. As to the bimanual method it is no doubt ingenious, but it appears to be in most cases indelicate and unnecessary, because we can always replace the uterus with the sound previous to the introduction of the pessary, as I am always in the habit of doing. In this era of improvement, however, we ought not limit ourselves to one mode of application of the pessary; and we ought to welcome the German plan now brought under our notice, because we may find cases in practice to which it is more particularly adapted.

DR. DARBY.—I attach great importance to the remarks which have been made with respect to the question of ante flexion. For a very long time I denied that there could possibly be such a thing, and I was fully prepared to say that I had never seen a case of it but one, which was, in my mind, doubtful. It was shown to me by the late Dr. M'Clintock.

DR. NEVILLE.—I think that it would be advisable in discussions like the present to discontinue the use of such a phrase as "the normal position of the uterus." It is too likely to sustain the notion that there is some such single position which is capable of being defined. No such position has any real existence. As we meet with it, the uterus is a very movable viscus, having its movements controlled to some extent, no doubt, by its attachments, but, none the less, having its position incessantly altered by the varying shapes and sizes of adjacent viscera—notably of the bladder and rectum. Independently, however, of these two organs there are other variable conditions upon which the actual position of the uterus must, at least in some measure, depend. One of these is the amount of distension of the small intestines lying above the uterus, and another consists in the amount of what Dr. Duncan has called "abdominal retentiveness"—the greater or less degree of intra-abdominal negative pressure. Dr. Macan has called attention in his paper to this necessary uncertainty in the definition of a "normal position." He adopts Schultze's definition under the conditions of dorsal decubitus and an empty bladder. But this makeshift only eliminates a few out of very many variable factors.

Still we can quite readily understand what is meant by a statement that the uterus is in an abnormal position. It means chiefly that the uterus is out of gear with its surroundings—that it has lost one of its most salient physiological features, free accommodative mobility. Reciprocity of movement being destroyed, it presses unevenly on its neighbours, and symptoms of irritation may then be established.

I do not agree with Schultze or Dr. Macan that the body becomes flexed almost at right angles to the neck of the uterus when the bladder is empty. So far as I am able to judge both clinical and anatomical experiences are against this proposition. Clinically I am satisfied that the uterus does not often undergo this flexion, since with an empty bladder and simple vaginal examination I have usually been unable distinctly to feel the body through the anterior *cul-de-sac*. Yet it should be distinctly felt there did the alleged ante flexion take place. Doubtless with a bimanual examination we may be enabled so to feel it, but this is accounted for by the effect the external hand then has in displacing the small intestines and depressing the fundus. Too exclusive a reliance on the bimanual method of examination may thus have given rise to this idea, which I cannot avoid considering as erroneous.



Again, anatomically I cannot realise how a firm, almost solid organ like the uterus in a state of health should allow of such a hinge-like motion between its body and neck. Moreover, authorities upon topographical anatomy, so far as I know them, are against this view. Braune, from his experience upon frozen sections, expressly dissents from Schultze's view, and Dr. Berry Hart, from similar experiences, has arrived at a like conclusion. The small intestines occupy the space left by an emptying bladder, while it is likely that the alteration undergone by the uterus is one rather of position than of shape—a version rather than a flexion. Dr. Macan objects (rightly, I think) to the term lever as applied to Hodge's pessary. He seems, however, to father upon Hodge a particular lever principle of action for which I think Dr. Barnes is altogether responsible. If I remember Hodge's work rightly—neither the use of the sound nor the bimanual method being practised by him—he was in the habit of effecting a primary reposition of the uterus by pressing the lower arm of his pessary well backwards, thus elevating and tilting its upper arm and the displaced fundus forwards. Hence he applied to it the name “Lever Pessary.” There is nothing new in the explanation of how this pessary acts with which Schultze is credited by Dr. Macan. The explanation is precisely as old as the instrument, since Hodge himself stated with great clearness that the action of his pessary mainly depended on its effect in elevating and fixing the cervix posteriorly. No doubt Schultze has done service in laying renewed stress upon this principle, and his figure of 8 pessary may prove very useful in giving effect to this principle in certain cases where the original instrument or one of its older modifications has failed to carry it out.

DR. DILL.—I should not have said a word but for one or two ideas that have been thrown out in the discussion. One is that which repudiates a normal position for the uterus. But if there be not a “normal” position for the uterus which can be defined, we cannot have “abnormal” positions; and, therefore, there is nothing to deal with. I hold that we have both normal and abnormal positions of the uterus, and that both are very easily understood and recognised. I would be disposed to hold at all times that the position of the uterus is normal, if there be no abnormal evacuations and no uneasiness be felt by the patient. On the other hand, we can detect an abnormal position by an examination per vaginam. Again, according to my experience, not only do very definite and distinct anteflexions, if not anteversions, occur, but these are very easily both recognised and rectified. Shortly before Dr. Macan read his paper, I was called on to see a patient who was labouring under uneasiness, pain in the back, bearing down, and irritation of the bladder. She had previously been treated for metritis or inflammatory affection of the appendages of the uterus; but, by a vaginal examination, I easily discovered that she was labouring under anteflexion, there being



a knuckle in the neck of the uterus about half an inch above the os. This presented backwards, and clearly indicated an ante flexion. That ante flexion was at once corrected, although there had been leeching and blistering and so forth, for the relief of the patient before. Yet a Thomas's pessary with a crutch was no sooner applied than the patient got up and walked through the room, which she had not been able to do before, and announced herself quite easy, comfortable and happy, for the first time for five weeks. I should have stated that at the time I saw the lady she was six weeks after her confinement, and that the displacement occurred after labour.

DR. MACAN, in reply.—So many points have been opened up during this discussion that it would be quite impossible for me now to refer to them all. I must, therefore, confine my observations to those which bore directly on the paper. I own I was surprised at the argument brought forward that it was of no importance to settle the normal position of the uterus. If that were true a large portion of my paper would be labour thrown away. I think, however, that I have shown that the normal position of the uterus is one of constant change, and this will, I think, remain true whether we consider the German or American gynæcologists the more worthy of our confidence. I also greatly fear that until the practice of the bimanual examination becomes with us the rule rather than the exception our opinions on the subject will not have very much influence in finally settling the question. We may boast of our large hospitals, but we cannot on that account afford to shut our eyes to what the rest of the world is doing. It is also obvious that no one is competent to judge the capabilities of the bimanual examination who is not himself in the habit of practising it. Another point which I want to make quite clear is that one of the objects I had in writing this paper was to show that in by far the greater number of so-called ante flexions and ante versions mechanical treatment was quite uncalled for. As to the action of Hodge's pessary, I think a great step is gained when we recognise that it acts by fixing the cervix posteriorly, and not by pressing the fundus upwards out of the posterior *cul-de-sac*. The three accidents that I have described as happening when Hodge's pessary is introduced in the ordinary way are entirely due to the fact that the uterus, in nine cases out of ten, is not first placed in a position of exaggerated ante flexion, and not to any fault inherent in the pessary itself. Whether chronic metritis causes the uterus to become rigid or not is a question into which I do not wish now to enter, but I have often observed a version gradually to become a flexion after depletion of the uterus had been practised. Finally, though I hold that ante flexion is the normal condition of the uterus, I do not for a moment maintain that there is no such thing as pathological ante flexion. Indeed I have in this paper given several examples of this latter condition.

*Saturday, June 17, 1882.*

DR. J. A. BYRNE, President, in the Chair.

*Additional Traction in Forceps Cases as an Alternative to Craniotomy.*

By ALEXANDER DUKE, M.K.Q.C.P.I., L.R.C.S.I., L.M., &c.

I wish to read a short paper on the advantages of additional traction in difficult forceps cases as an alternative to craniotomy, and my principal object in urging forward the subject is to elicit the opinion of the Society as to the amount of tractile force justifiable in difficult forceps delivery.

We have had numerous and valuable discussions, both in this Society, and also not long since in London, as to the frequency of application and proper time for the use of the forceps, but nothing that I remember bearing on the amount of force justifiable in difficult cases, a question on which there must always exist a wide difference of opinion.

Barnes lays it down as a rule, "Obstetric Operations," page 55, "Wherever the long forceps will lock without force it may be reasonably concluded that the case is a fit one for the trial of that instrument, and a reasonable attempt should be made to deliver by its aid before passing on to turning or perforation."

Every obstetrician of large experience must have met with cases (however few) where during delivery he was obliged for a considerable time to use his whole available force, and felt himself justified in so doing, while another with a similar case would hesitate to employ any such traction, for fear of injury to the mother, and at once resort to craniotomy.

This was the practice with the accoucheurs of a past generation, who also fell into the error of sometimes leaving too much to nature, and so frequently lost both mother and child.

As a general rule, a good forceps, in educated hands, is quite sufficient to deliver the greater number of cases, but when we meet with disproportion between foetal head and pelvis, or a difficulty in getting the head to enter the pelvic cavity owing to malposition, prominent sacrum, &c., we must often wish for additional tractile power, and this has evidently long since been thought of, as the various modifications of the forceps for the sake of a more secure hold will testify.

The idea of attaching the forceps in some way to the body of the operator during delivery struck me some years ago while assisting a senior practitioner to deliver in a difficult forceps case. He had failed, with all his force for a considerable time applied, and, at his request, I grasped

him round the waist. This proceeding had the desired effect, and a fine living infant was born. Had he not obtained the additional help there was no alternative but the perforator. *Apropos* of this, the following occurs in "Leishman's Midwifery," page 346:—"No greater error can be committed than to sacrifice power to elegance;" and the remarks of Dr. Barnes are so appropriate I quote them:—"It is sometimes necessary to keep up a considerable degree of force for some time, and not seldom in a constrained position the operator's muscles become unsteady, and under these circumstances he is apt to come to the premature conclusion that he has used all the force that is justifiable, that the case is not a fit one for the forceps, and takes up the horrible perforator."

I feel convinced that the lives of numbers of infants have been lost for want of additional tractile power in delivery; and not long since I heard, on undoubted authority of a much respected and celebrated accoucheur in this city (now dead), who had actually sent for the perforator (after failing with all his power to deliver with the forceps), and, while the messenger was absent, he was urged by the midwife present to have another trial, and whether it was due to the rest he had in the interval enjoyed, or the moulding of the head which had taken place, he was enabled to deliver the woman of a living infant, to the great delight of both doctor and nurse.

Instances such as this must, I fancy, recur to the memory of some of the senior members present, or of cases known by them where for want of additional tractile power the operators were obliged—after waiting, perhaps, for conscience' sake, till the foetal heart was inaudible—to perforate the head.

Having the idea of additional traction force before my mind for a considerable time, but not knowing how to apply that force in the proper direction, I was much pleased to read of M. Tarnier's forceps, and I thought if I could combine the idea of increased traction with Tarnier's idea of pulling in the pelvic curve it might prove a success.

About this time I read in *The British Medical Journal* an account of tractors invented by Mr. Morgan, of Lichfield, which he directed to be hooked into the fenestra of any long forceps after the blades had been applied to the head, and which he stated was a simple imitation of Tarnier's idea.

I purchased a pair of Mr. Morgan's tractors and gave them a fair trial according to his directions; but beside the great difficulty of reaching the lower edge of the fenestra after the forceps were locked, I found that the usual amount of moulding and elongation of the head had taken place, which forced the scalp through those openings and made it impossible for me without injury to the child's head to apply them. I then had a pair of tractors made for myself, the difference being, that mine are applied *with the blades and before the forceps are locked*, and not being hooks, but having shield-shaped extremities, they can be buttoned into the fenestra of any long forceps before application, and, not being liable

to slip, cannot possibly injure the scalp of the child or soft parts of the mother. I then followed up the idea of additional traction by applying a belt round my waist, to which I can attach the tractors in an instant if necessary, and then with this holdfast to prevent my foot from slipping, I have at least *two* alternatives should the forceps fail—apply the tractors, and then, if necessary, the belt.

While Assistant-Physician to the Rotunda Hospital I used the tractors in all cases in the out-patient department whenever I found any difficulty in the high operation, and the assistance the belt gave me in the few cases where the forceps failed (or where I was fatigued) has convinced me more than ever that there must occur some cases in which the child's life would certainly have an additional chance by using my plan of delivery without (as far as I can see) any additional risk to the mother; for there can be no doubt of the immense power gained by the use of the belt and tractors and the shortening of labour by such a power properly applied, leaving aside altogether the increased comfort to the operator—a very important consideration in these cases. But I may be asked why did I not attempt turning in preference to the use of that instrument. I reply—Should I do so I expose the child to a far greater risk, and should it be born asphyxiated, respiration can with greater difficulty be established; and Smellie says, Vol. I.:—"When we meet with a narrow pelvis, even though the head be of ordinary size, we should not attempt to turn, because in so doing you must give the woman a great deal of pain and yourself unnecessary fatigue. You ought, therefore, to try the forceps, and if they do not succeed, diminish the size of the head." And Barnes says ("Obstetric Operations," p. 86):—"We are justified in making tentative experimental efforts with the forceps before resorting to turning, which is more hazardous to the child, or to craniotomy, which is destructive to it; and it unfortunately happens that perforation being an easy operation is liable to carry its inroads further than the forceps." Speaking for myself I much prefer, should the forceps fail, to use the tractors and belt, as I consider there is more chance for the child and less risk to the mother's soft parts by pulling the head more forcibly and rapidly through the pelvis than if I allowed it to remain to mould (as it is called), checking the circulation in the parts lining the pelvic walls; and even granting that I apply a far greater force to deliver, I remove the pressure for good-and-all, and allow the circulation in those parts to be re-established.

Dr. M'Clintock says in his notes ("Smellie's Midwifery," Vol. I., page 370), speaking of sloughing as the result of tedious labour:—"Simpson, I think it was, who stated that strong pressure for a short time, such as the forceps would produce, was less likely to do serious harm than a minor degree of pressure exerted without intermission for a lengthened period," as when the head becomes wedged in the pelvis.

Again, I consider the additional traction which is essential in cases of version can be better applied by the tractors and belt; for what does Dr. M'Clintock say with regard to traction as the principal agent in cases of version ("Smellie's Midwifery," Vol. I. page 246):—"I candidly avow my conviction that the great and chief advantage of turning in contracted pelves would seem to be this—that without any addition to the bulk of the head, and without any compressing force being applied to it other than the pelvis itself, an enormous tractile force can be brought to bear on the foetus, and I can hardly think we could by any other possible means bring to our aid anything like an equal force to effect delivery; and the possession of this great power in delivery by the feet is the real source of gain in turning in narrow pelvis."

I cannot but think that if we are justified in using the enormous force M'Clintock speaks of in cases of version, we are at least equally justified in applying a similar force to deliver in head presentations, and I think we have in the belt and tractors the proper way to apply this force.

That there are numbers of general practitioners, I have little doubt, who never having met with a difficult forceps' case will "pooh-pooh" the idea of the belt and tractors as a dangerous and unnecessary innovation; but my reply to such gentlemen would be—It is only a proof of limited experience. Bearing on this subject Leishman says, page 544:—"There can scarcely be a stronger contrast than between a case requiring the application of the ordinary forceps when the head lies on the perinæum and one in which a contracted brim prevents the head from entering the pelvic canal. In *one* we have the operation thoroughly within our control, in the other we are operating in the dark at great mechanical disadvantage. We have to drag the head through the whole length of the pelvic canal, and finally we have to determine between the amount of obstruction and the degree of *justifiable* force to be used with a nicety upon which success or failure must depend!"

I regret that my limited experience will only allow me to instance a very few cases in proof of my paper. However, the notes were taken at the time, and made a very forcible impression on my mind, and it appears to me that, as Leishman says, page 544: "The one essential element which will contribute above all others to success is a careful selection of proper cases."

I shall now read the notes of my cases.

K. T. (primipara), aged 20, in labour 32 hours; small pelvis; slight difficulty in applying forceps (Barnes's); full amount of traction made for 15 minutes at intervals; no advance whatever; removed blades; attached the tractors, but with a like result; fixed tractors to belt, and delivered easily in 5 minutes; child asphyxiated, resuscitated. Mother and infant did well.

J. B., aged 26; first pregnancy; in labour 38 hours; called in by

pupils attending out case, as the second stage had lasted 6 hours with little or no advance; pulse very rapid; tongue furred; prominent sacrum; os fully dilated; applied forceps with tractors; patient fully under chloroform; used all my force, and then allowed two senior pupils, both much stronger than myself, successively to make traction for 3 minutes each, as I wished to show the advantage of the belt should they fail; no advance of head whatever; attached tractors to belt, and delivered comparatively easily; child, born alive, lived for 3 days afterwards. Mother made a very good recovery.

L. W., Ringsend; called in by midwife, who, wishing to have the entire credit of the case (which she confessed herself), left the patient, a primipara, aged 20, 2 days and 6 hours in labour. No foetal heart to be heard; abdomen much distended; furred tongue; pulse very rapid; olive-coloured discharge from vagina offensive; passed catheter, and drew off large quantity of urine; applied forceps with tractors and belt as the head was tightly wedged in pelvis; took only a very few minutes to deliver; child dead, as I expected. Mother made an excellent recovery, and is now pregnant 6 months. Had I been called in time to this case the child, a large male, weighing 8 lbs., would, I am sure, have been saved.

S. W., aged 29, primipara; in labour almost 2 days; head wedged in pelvis; large "caput;" applied forceps and tractors without avail; attached the belt; continued traction for 15 minutes at intervals to imitate labour pains; child born alive; mother made a good recovery. Unfortunately in this case there was some laceration of perinæum, owing to rigidity and large size of head.

My last and most interesting case I now read:

M. J., Sydney-parade, wife of gate-keeper, aged 32, primipara; taken in labour March 8th, 1880, at 9 a.m.; called to see her on March 10th, at noon; was informed a doctor had been in attendance, but on leaving the day before had told the patient she would be well shortly, and did not return; I found a midwife with her who had just finished her course of study at the Rotunda Hospital, and it was by her directions I was sent for, as she had only seen the patient that morning. Inertia existed for several hours previous to my arrival; patient apparently exhausted, but calling for help; prominent sacrum; head above the brim; large "caput;" applied Barnes's forceps with tractors, but was unable, with all my force, to stir the head; applied the belt, and even then my weight, while sitting, not being sufficient; the bed, also, being rather high, I was obliged to stand up and throw the whole weight of my body backwards on the belt for full 15 minutes, resting at intervals; patient fully under chloroform, and three females holding her to prevent her being pulled off the bed. I was almost certain I should have to send for the perforator. I succeeded, however, at last in delivering the patient of a large male asphyxiated,



which I resuscitated after artificial respiration had been produced for some minutes.

I saw both mother and child a few days ago, both perfectly well, and the mother six months pregnant again. The child when born had a deep groove on side of head, produced by the prominent sacrum, which completely disappeared in a short time.

Dr. Denman gives an account of a similar case. Natural labour; child born alive, with a depression fully an inch in depth on left parietal bone, occasioned by the projection of sacrum, but the depressed part gradually regained its original level.

Had I no case but the last as an instance of the value of the tractors and belt, I think it would justify me in exhibiting them, as had I not these aids in the cases I have read, I should have had no alternative but craniotomy.

In conclusion, I must thank the Society for so patiently listening to my paper; and I shall have much pleasure in demonstrating the use of the tractors by the aid of the phantom kindly provided by the President.

#### COMEDONES.

UNNA, in *Virchow's Archives*, recommends the following for comedones: Kaolin, 4 parts; glycerine, 8 parts; acetic acid, 2 parts, with or without the addition of a small quantity of some ethereal oil. With this pomade he covers the parts affected, in the evening, and if need be during the day. After several days all the comedones can be easily expressed, most of them coming out by washing the parts with pumice-stone soap. He reports uniform success from the use of this method. The *rationale* is based upon the view that the comedones are not produced by an accumulation of particles of dust or dirt, but by pigmentary matter which is soluble in acids. It is a well-known fact that comedones which accompany acne appear not only upon persons exposed to dust or careless of their persons, but also on chlorotic young girls in good circumstances. Besides, the discoloration not only exists on the surface of old comedones, but always descends to the lower parts. The same results as those obtained by the use of the above mixture can be secured by bandaging the affected parts for a long time with vinegar, lemon juice, or dilute hydrochloric acid. The author concludes by saying that the acids act like cosmetics, transforming the black colour into a brown or yellow shade, and destroying it gradually altogether. They also produce a quicker desquamation of the horny bed which interrupts the exit of the comedones, and brings to the surface the glandular openings.—*St. Louis Med. Jour.*



PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF  
DUBLIN.

President—WILLIAM STOKES, M.D., F.R.C.S.I.

Secretary—E. H. BENNETT, M.D.

*Stricture of Colon.*—DR. BENNETT said : To-day I received from Dr. Ringrose Atkins, of the District Asylum, Waterford, the specimen which I am now about to lay before you, together with the following letter :—

“DISTRICT ASYLUM,  
“Waterford, 10th February, 1882.

“MY DEAR SIR,

“I am indebted to the kindness of Drs. Cavet and Mackesy, surgeons to the Leper Hospital here, for being enabled to send you a specimen, which I think may be of interest to bring before the Pathological Society. I forwarded it to-day, addressed to you, by a young man going to Steevens' Hospital, with a request that it might be placed in your hands. The specimen consists of a portion of the intestine—the junction of the colon with the rectum—taken from the body of a man who died in the Leper Hospital, having suffered for some thirty-eight days previously from almost complete obstruction of the bowels. The particulars of the case, so far as I have been able to learn them, are briefly as follows :—The man, J. S., aged fifty years, a car-driver and unmarried, thin and worn looking, began to suffer some short time before Christmas from gradually increasing constipation, and occasional paroxysms of pain. The bowels did not, however, at once become completely locked up. Medical aid was sought, but obtaining little, if any, relief he was admitted into the Leper Hospital, on the 13th January, under Dr. Cavet's care. While in hospital the bowels could only be relieved by the introduction of the long tube, and even then but small scybala the size of grapes were passed. He was put on belladonna, and while under its influence felt fairly comfortable, and complained of but little pain. The bowels, however, became more and more obstructed, and on the evening of January 27th, after a severe paroxysm of pain in the pubic region, he collapsed and quickly died. Dr. Mackesy asked me to be present at the autopsy on the following day. When the abdomen was opened, there was found a small quantity of greenish serous fluid within the peritoneal cavity. The intestines were filled with soft yellowish fæces, the ascending, transverse, and descending colon being distended almost to bursting. Indeed, the coats of the gut were so

stretched that they gave way in several places merely under the weight of the contained fæces when raised from their bed. At the sigmoid flexure was found the stricture, which had so contracted the lumen of the gut that the top of the little finger could hardly be passed through without using force. The lesion appeared to be quite localised. There were no inflammatory adhesions anywhere, nor any discoloration of the tissues of the intestines, the gut seeming to be drawn in annularly at the spot indicated. The specimen is put up in a solution of chloral and hyd. bichlor, and I passed a portion of a catheter through the contracted canal. Hoping it will reach you safely, and that you may think it interesting enough to present to the Society and preserve.

“ I am,

“ Yours very truly,

“ RINGROSE ATKINS.”

The specimen is an extremely limited structure of the sigmoid flexure. It is perfectly soft and perfectly free from anything like malignant deposit. The extreme narrowness of it is such that it is not easy to arrive at first sight at what the cause was. There is a cicatricial ring, which appears to have been caused by the healing of an ulcer which was necessarily of a very limited character. It is clear that had the diagnosis been possible the case would have been eminently suitable for the performance of Amussat's operation.—*February 11, 1882.*

*Mammary Sarcoma.*—The PRESIDENT said: This is a large mammary tumour which I removed quite recently from a female, aged forty-five. She was married, but childless. I have not had time to make any very close examination of it, but think it worthy of exhibition while it is recent. The woman is at present under my care in the Richmond Hospital. She first observed the enlargement on her right breast about twelve months ago. It remained very small—not larger than a hen's egg—until about three or four months ago, when it began rapidly to develop, and eventually it assumed its present dimensions. In consequence of the great rapidity of its growth I at first hesitated about operating; but as there was apparently a complete absence of glandular contamination, the skin not involved, and the tumour itself freely movable over the pectoral muscles, I determined to give her a chance by removing the tumour, and accordingly did so. What she suffered chiefly from was not the lancinating or shooting pains which are so characteristic of malignant disease of the mammæ, but the great weight of the tumour. The diagnosis I made before the operation was that it was probably a sarcomatous tumour, and that is now confirmed by its external characteristics, and also by the results of a hasty microscopical examination. It was removed only the day before yesterday, and the result of an examination made by Dr. Dickenson and Dr. Abraham is that it is a sarcomatous

spindle-celled tumour. It is irregular in shape and much softer than such tumours usually are; some parts, on the other hand, are hard, being almost cartilaginous. If left alone it would probably have turned into a fungating mass, and hæmorrhage would have taken place from it. The specimen is of interest as showing the great rapidity of those growths.—*February, 11, 1882.*

*Morbus Addisonii.*—DR. FRANKS said: This specimen is a typical case of Addison's disease, but presents peculiarities in special points. The patient was a girl aged fourteen, who was admitted into the Adelaide Hospital on the 27th of last July. When brought by her uncle into the hall, where I saw her, she was in an extremely prostrate condition. He was supporting her as she sat on a form, and whilst I was speaking to him she almost fainted. I had to lay her on her back on one of the forms, for she seemed incapable of sitting up, or of supporting her head, or even of keeping her eyes open. Her pulse was almost imperceptible. I ordered her to bed at once, and shortly afterwards went to see her. I ascertained that she had been in perfect health until two months previously, at which period she was living at Bray. The first symptom of illness she exhibited was a gradually increasing weakness. She noticed that everything she tried to do caused weariness, and this increased rapidly till she became disinclined to take any kind of exercise. She also noticed that her skin, which was usually of a dark colour, was getting darker. This she attributed to the effects of the sun. This appeared mostly on those parts usually affected by the sun—namely, the backs of the hands, the wrists, and sides of the neck and face. She gradually became so weak that she was brought to the hospital. It was stated that both her parents had died of phthisis. She was very well developed and well nourished, and her whole body was covered with a fair amount of adipose tissue. Her complexion was very dark, not of the extreme kind pictured in some books, but she exhibited a general bronzing of the skin. There was one very dark patch on one of the wrists about the size of a shilling; it was the only patch; all the rest of the bronzing was uniform. Her eyes displayed the characteristic pearly-whiteness of the conjunctiva described by Addison, the iris being dark brown. She had long black lashes, sometimes considered an evidence of a delicate constitution. She had suffered a great deal from persistent retching, and complained of constant mists floating before her eyes. I could detect little wrong with her lungs. There was a slight harshness of respiration below the clavicles, but nothing could be found sufficient to account for the extreme asthenia. The heart sounds were extremely weak. On applying the stethoscope to the cardia I could hear neither the first nor the second sound, but when the ear was placed directly to the chest wall the first sound could be detected. The pulse was very weak, and beat

120 in the minute. The abdomen was retracted, neither swollen nor tumid, and there was no tenderness or tympany of any kind over it. Two days afterwards she appeared very much weaker, and I gave directions that she should not be allowed to sit up even for food, but should be fed in a recumbent position. At 10 p.m. that night a band passed down Peter-street, making a great noise and terrifying the inmates of the hospital. The girl, who had fallen asleep, suddenly woke in great alarm—jumped up in bed, gave a shriek, and fell back dead. Thirteen hours after her death Mr. Scott, the resident, and I made a *post mortem* examination. There was no emaciation; the body was remarkably plump, presenting the appearances already described. On opening the thorax three small patches of lobular pneumonia were found—one being at the apex of each lung, and one in the right axillary line; each was about the size of a small hen's egg. On section they were found to be composed of nodules of caseation, but there was no softening and no abscess. The bases of both lungs were hypostatically congested, but were otherwise healthy. The bronchial and mesenteric glands were enlarged. All the viscera of the abdomen seemed healthy with the exception of the supra-renal capsules. The left one was very much enlarged and was quite hard. Section shows it to be completely disorganised. The whole substance of the capsule is replaced by caseation. In some parts of it are small isolated nodules, whilst in others the nodules seem to have coalesced. The right supra-renal capsule is not nearly as much affected; it is not enlarged, and, though it contains nodules of caseation, showing that the disease is well advanced, still it is not affected to the same extent as on the left side. Dr. Abraham has kindly made some microscopical preparations for me. The centre of the caseous mass is quite structureless, but as we approach the enveloping capsule of the organ it becomes much more cellular, and we find here the large polynucleated cells, sometimes branching and surrounded by smaller cells arranged concentrically around the large cell—in fact, we have a typical example of true tubercle. The case is interesting in a great many points of view. In the first place she only gave a history of two months' illness, but the amount of disease in the capsules must have been of months' if not years' duration. The case shows the length of time during which the capsules may be diseased before constitutional symptoms appear. None such were noticed until two months previous to her admission. In Dr. Wilk's article on Addison's disease, published in Reynolds's System of Medicine, he denies that the disease is what is ordinarily known as tubercular, and looks on it as a kind of inflammation *sui generis* which runs its course through three stages which he describes. But there is a remarkable family likeness between the three stages of this peculiar inflammation and the ordinary processes which go on in tuberculosis. I may add that Professor Purser has examined sections of the

capsules, and is of opinion that the appearances are undoubtedly those of tubercle, but whether they are instances of so-called "local tuberculosis" or of a general infection of the whole system he is unable to say.

DR. FINNY said: The case confirmed the opinion entertained by the majority of observers that *morbus Addisonii* was associated with disease of the supra-renal bodies. But the coincidence should be regarded with an unbiassed eye, because it was not necessarily a consequence of disease of the supra-renal bodies that the patient should also exhibit the group of symptoms described by Addison. He did not necessarily connect those symptoms with disease of the supra-renal bodies. Subsequent writers had described a great number of supra-renal diseases. There was a group of symptoms common to other diseases besides *morbus Addisonii*. There were one or two cases in which the supra-renal bodies failed to show tubercular fibroid or other changes, and these upset the view of those who looked on disease of those bodies and the group of symptoms in question as cause and effect. He would ask had any examination been made of the sympathetic semilunar ganglia. The case was further remarkable for its short duration. He never knew of a case in which the symptoms of *morbus Addisonii* were developed within only two months of death. They had no reason to doubt the evidence of the microscope that the disease in the case before them was tubercular, and they might look on the existence of tubercle as the result of the great prostration of the patient.

DR. HENRY KENNEDY thought the disease in the specimen before them was only a modification of strumous disease. In nine-tenths of the cases of the kind tubercular disease of some kind or other had been found in the lungs. Nor was the absence of emaciation antagonistic to the existence of tubercle, for they were all aware of the form of disease which the President's father had described as "fat phthisis," and how a patient might die very fat, and yet have extensive tubercular disease of the lungs. That bore out fully the possibility of the coexistence of the disease in question with the tubercular diathesis. There were not many instances in which the disease had appeared at so early an age as in the present case.

DR. DUFFEY observed that one circumstance deserving of some attention was the probable latency of the disease. This was alluded to at the late meeting of the International Medical Congress in London, and it struck him in connexion with a case, which he published some years ago, in which the patient presented many of the usual symptoms of Addison's disease. The body was deeply pigmented. After a blister was applied the parts got very much darker. The patient recovered perfectly; and the question arose was it Addison's disease at all, or only a case of dirt disease. Last summer a patient came to Mercer's Hospital one morning, complaining of intense debility and weakness, and having

almost the appearance of a person who had been struck down by typhus. Two days afterwards he died, never having recovered from his state of collapse. After a *post mortem* examination the supra-renal capsules were handed to Dr. Harvey, who found them extremely enlarged and evidently affected by this disease. It was evident that there had been a period of latency.

MR. MATURIN mentioned the case of a boy who came under his notice in the Richmond Prison in an advanced state of phthisis. He had a large cavity in his left lung, and a great many parts of his body were discoloured.

DR. FRANKS (in reply), said : It was not generally accepted that every case of discoloration of the skin was a case of Addison's disease. The discoloration might simulate that of Addison's disease very closely, but still the latter presented characteristics peculiar to itself. The Germans had called attention to an affection which had been mistaken for Addison's disease, in which the discoloration was originally brought about by dirt, which had become so ingrained that no amount of blistering or washing would remove it. They called it "Vagabond's Disease." Such a person might be in a condition of extreme asthenia and emaciation, arising from the same condition in life which had brought about a discoloration of the skin, and yet have no supra-renal disease or any other pathological lesion to account for it. Addison was very definite as to the symptoms which indicated disease in the supra-renal bodies, namely—peculiar discoloration of the skin, a remarkable asthenia and yet absence of emaciation; the fact being that the body is always in a remarkably plump condition. What had been laid down by Addison had, he believed, also been held by Professor Greenhow. As to the condition of the semilunar ganglia in the case in question, he regretted that circumstances prevented his making as elaborate a *post mortem* as he would have wished, and so the ganglia had not been examined. How far an implication of the nerves and ganglia had to do with this disease was still a question *sub judice*. Eulenberg and Guttman had tabulated 19 cases in which disease of the semilunar ganglia and sympathetic was associated with the characteristic symptoms of Addison's disease, but they had also collected 10 more in which the symptoms were unconnected with any disease in the nervous structures. Moreover, Lubinoff had tabulated 250 cases of *post mortem* examinations in which the semilunar ganglia and the nerves connected with them had been found in every state of disease, from slight irritation to fatty degeneration, and in which there were none of the symptoms peculiar to Addison's disease. Professor Semmola, of Naples, stated at the late Medical Congress that he did not regard the nerve affection as the result of a previous disease in the capsules, but argued that the sequence of events was the reverse. The disease ought, according to him, to be regarded as a primary disease of the ganglia nerve



centres, and the changes in the supra-renals were the last effects of trophic change, produced by the nerves which presided over the nutrition of these organs. With these views he did not consider that the members of the Society could entirely agree.—*February 18, 1882.*

*Chronic Rheumatic Arthritis of Bursa.*—DR. E. H. BENNETT said: This specimen of chronic rheumatic arthritis of the bursa, which lines the surface of the lesser sciatic notch and of the obturator internus tendon, is one which I am glad to exhibit. One would suppose that the disease has been long since described; but if we take the descriptions of chronic rheumatic arthritis published up to the present I do not think this detail has been accurately described; and, again, even if it has been accurately described, the descriptions have shown it in different relations as regards the mode of its occurrence from the present case. The earliest observations are those of *Monro the younger*, whose plate I have here, illustrating the position of the bursa we have under observation, which exists between the tendon of the obturator internus muscle and the lesser sciatic notch, and which in many cases extends in between the heads of the hamstring muscles, arising from the tuber ischii. *Monro's* observations of the disease of the bursa were made entirely with the object of establishing the fact that the synovial structures of the bursa were identical with the synovial structures of the joints. One of the facts relied on by him to prove it was the association of bursal tumours with disease of the synovial membrane of joints. The most complete and accurate description of chronic rheumatic arthritis is that of the late Professor Adams, in which he describes rheumatic diseases of the bursæ, but describes them as part of joint diseases. He says such bursal tumours may be considered as symptomatic of diseases existing in the neighbouring joints. The particular tumours he was then dealing with were connected with the popliteal space, with the knee-joint, the wrist-joint, and so on. In the knee particularly the existence of these diseased bursæ was demonstrated by him as being secondary to and connected with chronic rheumatic arthritis of the joints, the two structures suffering in the same way in the same individual. *Monro's* observations are of the same kind. He says:—"In gouty and rheumatic constitutions the joints are often swelled, but when we attend narrowly to the seat of such swellings we shall generally discover an effusion into the bursa as well as into the cavity of the joints." Taking *Erichsen* as an example of more modern writers, we find he mentions four diseases of the bursa—namely, excessive secretion from pressure; 2, suppurative inflammation; 3, the accumulation of dark fluid, usually of a brownish colour, with a large number of small flattened elongated bodies about the size of grains of rice floating in it, such as occurs in the well-known *Dupuytren's* bursa of the wrist; 4, solid thickening of the walls of the bursa. He does not



refer to rheumatic disease of the bursæ, and I think that up to the present no exact description of this particular form of the disease has been published. In this specimen we see the tendons of the obturator internus muscle as it passes out under the lesser sciatic ligament, altered in the same way as the tendon of the biceps is in a shoulder joint which has been affected with rheumatic arthritis. There is the fraying of the tendon and disintegration of its structure. We find many structures analogous to the synovial fringes of the joints, which are developed by the distension caused by the accumulation of the bursal fluid and by chronic inflammatory action on the opposite side of the bursa, the bone itself has undergone the same form of absorption and erosion, with a covering over it similar to what we see in chronic rheumatic arthritis of the joints themselves. Everyone is familiar with the eroded heads of bones caused by this disease. Here we have exactly the same in this disease. The next point of interest in the present specimen, which I have examined with great care, is that there is no association of the disease with any disease of the hip joint. This is an example of independent chronic rheumatic arthritis of the bursa. It is distinct from any disease of the joint, and is an original disease of the bursa. I examined the joint, and found a small amount of fluid in it, but it would, on the whole, pass muster as a healthy joint. There is evidence of a slight degree of rheumatic arthritis, but there is no eburnation. Again, there is evidence that this is the constitutional form of the disease of Adams, because the corresponding bursa in the opposite side is affected similarly, though to a less degree—in other words, the disease is symmetrical. The phenomena produced by the distension are very well seen, because the tendons of the hamstrings have been dissected and separated from each other far below their origin, and the small bursa that normally exists between them has been turned into a large cavity, and so this great space exists. We want a clinical history of such an affection as this, but in these days of nerve-stretching and so on, when sciatica and allied affections are the subject of discussion, it is important to bear in mind the possibility of such a disease as we have here. I have often before observed this particular bursa similarly diseased, but have let slip the opportunities of preserving the specimens. I have seen, too, the same disease occurring in the bursa of the great trochanter, as distinct from the hip, on many occasions. There is distinct evidence of rheumatic arthritis of other small joints, but least of all in the hips, and there is no communication whatever between the joint and the bursa.—*February 18, 1882.*

*Large Gall-stones passed per Anum.*—DR. J. W. MOORE read the following account of the passage per anum of some large gall-stones. It was contained in a letter dated January 29, 1882, from Surgeon-Major Hare, of the Army Medical Department, now stationed at Mooltan, in the Punjâb.

He writes: "Seeing that you are interested about gall-stones, and have exhibited unusually large stones before the Pathological Society of Dublin, I thought I would send you the measurements of three, passed lately by a patient of mine. She has suffered more or less for the past five years from biliary colic, not suspected, however, until last year, when the attacks were more severe, and followed by jaundice. No. 1 was passed per anum on the 11th of November, 1881; it is cuboid in shape, with seven well defined facets. It measures  $\frac{3}{4}$ -inch in its long axis,  $\frac{1}{2}$ -inch in its short axis,  $1\frac{1}{2}$ -inch in its longest circumference, and  $1\frac{1}{4}$ -inch in its shortest circumference. No. 2 was passed per anum on the 25th of November, 1881; is nearly a perfect octagon, with eight well defined triangular facets. It measures a fraction under  $\frac{7}{10}$ -inch in its long axis,  $\frac{3}{4}$ -inch in its short axis, and  $1\frac{9}{10}$ -inch in its circumference. No. 3 was passed per anum on the 24th instant; is slightly larger than No. 2, and also of octagonal form. It measures a fraction over  $\frac{7}{10}$ -inch in its long axis,  $\frac{3}{4}$ -inch in its short axis, and 2 inches in its circumference. No. 1 passed through the common bile duct on the 7th of November, No. 2 on the 20th of November, and No. 3 on the 21st of January. These were the periods of terrible suffering—intense pain, as if a cord had been tied round the waist; great restlessness, the patient constantly getting up to have the back rubbed; windy eructations; a choking sensation; gasping for breath; vomiting, and the sudden distension of the abdomen with wind; great collapse, and coldness, the patient being pulseless, and appearing on the point of death. I have found emetics of mustard do good, and bromide of potassium relieves (when it can be retained) the flatulence. These symptoms are followed by delirium, sometimes violent; wanting to get out of bed and run away; talking incessantly. During the last attack the patient sang correctly the *Inflammatus* from the *Stabat Mater*, and Mozart's *Agnus Dei*, from No. 1 Mass, and she has now no recollection of having done so. The patient was weaker then (21st of January) than on the former occasions, and the exhaustion nearly extinguished her life. The delirium continued about six hours, but she had previously been feeling unwell with pain in the right side, and did not leave her bed since Christmas day. . . . The sufferer is forty-one years of age, she has been married five years, and has three children, the youngest eighteen months old, she has been two years in India, and last year suffered greatly from malarial fever in Mooltan. . . . There is a distinct, firm, round swelling over the liver, apparently the fundus of the gall bladder. . . . Some doctors here think the facets were produced by friction, and that the gall bladder is full of stones, and, consequently, several to follow. She is so weak, if that is the case (unless there is a considerable interval to regain her health), I believe she will not be able to pull through. I think, myself, that the stones are produced by crystallisation, they are very hard, and a certain regularity of form and

resemblance between them that could not be produced by mere friction." It may be in the recollection of the Society that Professor Haughton, who was present on the occasion when I exhibited the gall-stones, suggested that they owed their shape to lateral pressure, comparing them to the hexagonal cells of a bee-hive. The measurements of the calculi mentioned in the letter are about the same as those of the gall-stones that I exhibited. It was suggested to me that some of the stones in my case had ulcerated through the common bile duct, and had so reached the intestine. In Surgeon-Major Hare's patient they seem to have passed through the common bile duct.—*February 25, 1882.*

*Urinary Calculi.*—DR. BENNETT said : These are remarkable specimens recently presented to the Museum of the School of Physic by Surgeon-Major T. Robinson, of the Bengal Army. The first is half of a urinary calculus of remarkable shape—not unlike a mushroom. Its external physical characters present nothing exceptional except its shape ; in a brighter light it presents innumerable glistening crystals of ammonio-magnesian phosphate. The surface is studded with the material of mulberry calculi mixed with the phosphate. Its chemical composition shows that it consists of oxalate of lime mixed with crystalline phosphate. The most interesting point about it is its nucleus, which consists of a bullet of moderate size altered from its original shape. The piece of calculus in my hand weighs 214 grains ; and doubling that, for it is only the half of the original calculus—the entire mass weighed somewhere about an ounce. Specimens of the kind are necessarily rare. In the American War Reports several of the kind are recorded, and in the Museum of the College of Surgeons we have some similar examples of rare interest—one being Mr. Colles' case, and the other Mr. Cusack's specimens of leaden projectiles which had been removed from the bladder after a considerable time of residence in it. In Mr. Cusack's case the specimen is nearly all bullet and very little stone ; and it was removed nearly two years after the receipt of the injury. These two are perhaps the only instances that have been preserved previously in Dublin as far as we know. The history of the present specimens is very remarkable. I am indebted to Surgeon-Major Robinson for them. The following is his account of them :—

“DEAR SIR,

“When I was abroad in India I operated on a man for stone, and on removing it I was struck by its extreme weight. I made a section of it, and found an elongated bullet forming a nucleus. The history of the case was :—The man had taken part in a raid on a neighbouring village. The attacking party was repulsed. When my man was clearing off he was hit in the right gluteal region ; the bullet penetrated the bladder, passing through the right ilium. He had no trouble of any kind until

nearly two years afterwards, when all the symptoms of stone appeared, and he came to me to be operated on.

"The patient was a hill man from beyond the north-west frontier. About the beginning of 1879 he received a bullet wound. It is uncertain whether the bullet penetrated the bladder at once, or worked its way into it afterwards. However, it gave him no uneasiness until the beginning of 1881 when all the symptoms of stone appeared. He came down from the hills into our territory, and was operated upon. He got a dose of opium after the operation. His bowels were not moved until the next evening; while at stool a peri-rectal abscess burst, discharged one and a half pint of pus; hectic fever set in at once and rapidly carried him off. I was unable to get a *post mortem*. I consider I must have given the sac a nick when withdrawing the knife, and the slight straining at stool burst it.

"Below you will see a section of the stone, and please let me know whether you would care to put one half of it in the Museum of the School. Out of all the calculi I have removed this is the only one of any note. I offer it to you in remembrance of old times at the School.

"I am, dear sir,

"Yours faithfully,

"T. ROBINSON, M.B., T.C.D.,

"Surgeon-Major.

"The Professor of Surgery, Medical School."

It is clear that the phenomena of stone were what attracted attention, and not the wound. The specimen is of remarkable interest in consequence of the history, for we see the sort of immunity the inhabitants of India appear to enjoy with respect to injury. Although this man was wounded by a bullet which passed through the ilium, he did not suffer from any material phenomena from 1879 until 1881. He then only suffered for a very short space of time, for the amount of incrustation on the stone, although considerable, is so small that it could not have been long a source of irritation. Its structure being phosphatic throughout, its entrance into the bladder was synchronous with the development of cystitis. The probability is that the idea thrown out by the letter is correct, and that the bullet lay in some indirect relation to the bladder, but not actually in it, and that after some time it worked its way in. The remarkable fact in all these cases is the singular safety, so to speak, which the patients enjoyed after having received bullet wounds of the bladder, as compared with what happens in the case of wounds from penetrating instruments such as a knife or bayonet, or of a fracture of the pelvis, or, still more fatal, of a rupture of the walls of the bladder without wound.—*February 25, 1882.*

*Urethral Calculi.*—DR. BENNETT said: These are three urethral calculi that Surgeon-Major Robinson has also kindly sent to us with the following note :—

“ Perhaps you will be interested in the three small calculi. I removed them from the very capacious urethra of a young man to whom, as he assured me, they had caused little or no inconvenience. They were removed by incision. At the time of removing them I was so astonished at the capaciousness of the urethra that contained them, and the extent of the incision required that I did not think it necessary to pass in a catheter—consequence as usual; next morning the scrotum was as big as a football, tense, shining, and apparently in a bad way. I made no delay in freely incising it, and then by raising it on a short piece of splint, resting on the thighs, the urine drained out with no worse consequence than a slough no larger than a sixpenny bit, which went right into the testicles. The case then progressed without a hitch to complete recovery.” They are exceptional in appearance, and any man who was able to retain them in his urethra must have had a capacious passage indeed. This one is twelve millimetres in transverse measurement, which exceeds the largest urethral dimensions provided for by American, French, or English catheters. They weigh respectively 53·7, 32·2, and 23·6 grains. The largest is spindle-shaped with one end cut off to articulate with the other or one of them. The others are irregular polygons. Their composition is in the main oxalate of lime with intervening belts of calcic phosphate and lithate of ammonia.—*February 25, 1882.*

*Epithelioma of the Œsophagus.*—DR. FINNY said: This is an example of primary cancer of the Œsophagus with secondary cancer of the left lobe of the liver and of some glands near the stomach. The specimens were taken from the body of a ship carpenter, aged fifty-two years, who had been ailing only since last November, and been laid up for only the last three or four weeks. He suffered from pain continually over the stomach, and for some time from difficulty of swallowing, which was at first with respect to all kinds of solid food, but was afterwards, for the last three or four weeks, in respect to even fluids, of which he could not swallow any large quantity without great pain and difficulty. His chief local pain was right of the epigastrium corresponding to the left lobe of the liver, and while he had no pain directly referable to the throat, or gullet, he complained of pain in the left shoulder and about the middle of the back corresponding to the 8th dorsal vertebra. He was under my care in the hospital for six days. His aspect was that of malignant disease, and I considered him to be the subject of cancer of the Œsophagus, most probably of the epitheliomatous nature. On examining his power of swallowing, I found that the fluid food when swallowed always passed without difficulty or delay to within a short distance of the

stomach, and then, after an effort, passed into the stomach. It did not go into the stomach at first, but after remaining for thirty or forty seconds at the point I have indicated, would pass into the stomach. He would say at first—"It is not gone yet;" and then he would say—"Now it is," an observation confirmed by the stethoscopic examination. He had no vomiting or other evidence of stomach disease or of œsophageal stricture. Three days before death he vomited what looked like blood, and threw up a quantity sufficient to fill a small basin. It came up in "gulps," without straining. This was repeated at intervals during the next two days. The peculiarity of it was that it was perfectly free from all smell of the stomach, and was not a large, lumpy, bloody mass, such as we are accustomed to see, but had a great deal of brown froth mixed up with the blood. He was fed by the rectum during the last two days of his existence, and nothing but ice was given through the mouth. The bleeding was kept in abeyance by ergotine injections; but on the evening of the 28th he was suddenly seized with dyspnœa—resp. 52; pulse 140; temp. 97.6°—and complained of a stabbing of pain in the epigastrium which ran to the back of the left shoulder. He felt as if suffocating and that the blood was coming up his throat, but he was unable to expel it. He died in ten minutes afterwards, the immediate cause being a fresh hæmorrhage into the œsophagus. A review of the symptoms pointed to a dilated state of the gullet, with stricture of its lower part, and I believed the obstacle to be cancerous in its nature. On a *post mortem* I examined the left lobe of the liver and found this distinct nodule in it, the size of a small marble, with the usual arborescent vessels round it, and the yellow colour of recent cancer. It had not gone on to the stage of central depression. On opening the chest I found the lungs emphysematous on their surface. The left lung was very adherent at the root, and by the posterior mediastinum, and on my attempting to lift it out a portion gave way, and a quantity of bloody matter with the smell of a fœtid abscess came out. The œsophagus was free from disease from the pharynx to its entrance into the thorax, but as it passed by the arch of the aorta it became diseased, and from that to within a quarter of an inch of the stomach it was one mass of disease of a most extensive nature. The cardiac orifice of the stomach seems to be perfectly healthy, and there is no disease of the mucous surface of the stomach. The œsophagus is the seat of an enormous ulceration which had destroyed every portion of the tissue of the tube in many places, so that the ulcerated mass is limited on the left side by the lower lobe of the lung and the connective tissue of the mediastinum, although it has burrowed some little distance into the lung. On the right side it is closely limited by the back of the bronchus and the tissue of the right lung. The aorta, which lies immediately behind the abscess and which forms part of its posterior boundaries, is quite free from disease, although a communication the size of a pin-hole is seen to exist in



the middle between the aorta and it. This is proved to be the œsophageal branch of the aorta, and to this vessel is to be traced the cause of the fatal bleedings. On laying open the stomach at the posterior aspect I found it full of reddish bloody, or puce-coloured, matter, and there was a quantity of the same puce-coloured fluid in the small intestines. The diaphragm itself was unaffected, but the glands in front of and near the lesser curvature of the stomach are very largely involved. A single cancerous nodule is seen in the left lobe of the liver; the pericardium has two little nodules of matter which I presume are of the same nature. No other portions of the body seemed diseased.

The points of interest in the case are:—First, the primary cancer of the œsophagus; secondly, the extension of the disease into the glands at the side of the stomach (the latter itself, as well as the diaphragm, being free from disease); thirdly, the involvement of the liver, for I believe it to be an unusual occurrence that cancer of the œsophagus should be unlimited—in other words, as a rule, cancer of the œsophagus is commonly found in the œsophagus only, and not in any other organ of the body;—and lastly, that so very extensive a disease should have so few symptoms either directly of ulceration or of suffering, should run so short a course as three months, and should end in the very unusual way of hæmorrhage from a direct branch of the aorta.

The explanation of the delay and difficulty in swallowing is that the food passed down readily into the wide chamber behind the heart, lodged for a time in that cavity, the vermicular action of the muscles of the œsophagus being absent owing to their destruction, until the weight opened the naturally closed condition of the last half-inch of the gullet and the cardiac orifice of the stomach. As to the cause of death, it was the bleeding which came, as I have proved, from the small vessel which opened directly into the ulcerated sac. The adjoining lung into which the cancer extended showed all the appearances of some form of consolidation—presumably grey hepatisation, and abscess—though not so far gone as to be gangrenous, and it might perhaps be of a cancerous nature.

DR. HENRY KENNEDY said that the extent of the ulceration was very remarkable. He could not say that he ever saw anything like it. The implication of the lungs in such cases was common enough. He had seen cases in which there was secondary affection of the lung, the disease not being a part of the cancer, but a secondary result from the nervous influence being disturbed, but there was more or less of abscess of the lung, as here. He did not think that there was malignant disease of the lung in the present case. The liver did not appear to be a healthy one outside the nodule. Diseases of this sort sometimes resulted from acrid or poisonous matter being taken into the stomach.

DR. DUFFEY remarked that when the venous connexion between the



lower end of the œsophagus and the portal circulation was borne in mind it was not so remarkable that cancer should have occurred in the liver.

MR. KNOTT remarked that secondary cancer following cancer of the œsophagus was very rare.

MR. CROLY said that a short time ago he showed a case of cancer of the œsophagus in which Mr. Knott made a *post mortem*. It was an annular stricture about two and a-half inches below the diaphragm, and the disease was entirely confined to the œsophagus. He had read Mr. Knott's able paper, which gained the prize of the Society some years ago. In the case to which he had just referred the man could get liquid down to a certain point, and then it would come up again.

DR. EDWARD HAMILTON said that as in other cases—just as in the present—they might have very extensive disease of other organs besides the œsophagus, they should examine such cases with great care before proceeding to an operation.

DR. BENNETT observed that the greater number of cases of malignant disease of the œsophagus were epitheliomata. That form of disease was apt to take a slow course as regarded the infection of adjoining glands and the dissemination of itself through the body; and most people who got stricture of the œsophagus from it died before other organs became involved and they had time to suffer from secondary disease. It would be interesting to know what this stricture was.

DR. FINNY, in reply, said there was no history of the man having swallowed acids or any other injurious substances. He did not think that in the present case the stricture was the primary disease.

The specimen was referred to a Committee, who subsequently reported that the growth was an ordinary epithelioma, and that the secondary deposit in the liver presented exactly similar characters, identical with the features of epithelioma affecting the skin.—*March 4, 1882.*

#### HÆMORRHAGE DUE TO QUININE.

DR. KURIAZIDES ("Γαλήνος," Dec. 12, 20, 1880) gives two instructive cases occurring in his own practice in which the use of quinine was followed by hæmorrhage, in the one case the blood coming from the kidneys, in the other from the nose. Several analogous cases have been described by others, including instances where the drug produced a hæmorrhagic eruption upon the skin. Quinine, then, according to the author, tends to produce a hyperæmia in all the organs of the body, and if in any organ the capillaries have been rendered brittle from any cause, in that organ vascular rupture and hæmorrhage may take place. Although hæmorrhage from the use of quinine is most common in debilitated malarial subjects, it may occur in those who have previously been healthy.—*New York Med. Journ.*, July, 1882.

# TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

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SESSION 1881-82.

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President—PROFESSOR CUMING, M.D.

Hon. Secretary—WILLIAM WHITLA, M.D.

*Tuesday, February 28, 1882.*

PROFESSOR CUMING in the Chair.

*Some Practical Hints on the Management of Pregnancy, Labour, and the Puerperal State.* By ALEXANDER DEMPSEY, M.D., L.R.C.S.I.

IN this paper I shall only touch upon a very few points in connexion with pregnancy, labour, and the puerperal state: to do more would be to write a system of midwifery. I am aware that even in thus dealing with my subject I must open up an extensive field for discussion, perhaps too much so for any useful purpose. But there are some modes of procedure in obstetric practice which from experience I have adopted, and this communication is more for the purpose of testing their accuracy and eliciting the opinions of the members for my own information than for putting forward any new theories. None of them would individually warrant me in occupying a meeting of the Society in their discussion, so I have placed them under the three heads stated in the title of the paper.

*The Vomiting of Pregnancy.*—This is, perhaps, one of the most troublesome and unsatisfactory complaints we have to deal with. When it is severe and incessant the patient's life is placed in great danger from starvation; even in a moderate degree it causes a great deal of inconvenience and discomfort to the patient, and anxiety and trouble to the medical attendant in his endeavour to arrest it. It is pretty generally admitted to be a reflex act depending upon some altered or diseased condition of the uterus or cervix. Dr. Graily Hewitt regards it as due to flexion or version of the uterus, causing a cramped or tense condition of the uterine fibres at or in the region of the internal os, and consequently his treatment of the complaint is reposition of the uterus. Dr. Henry Bennett and Dr. Clay, of Manchester, say it is due to congestion, inflammation, or erosion of the os or cervix, or both; and they treat it with the local application of nitrate of silver. On the other hand, Dr. Marion Sims and M. O. Jones, of Chicago, hold it is due to some kind of reflex irritation from the cervix, and that its cure will be effected by

setting up inflammation by means of caustics at this site, and thus concentrate the nervous phenomenon at the point of irritation, and in that way relieve the stomach. The late Dr. Copeman, of Norwich, had an infallible belief in dilating the os with the finger, and thus relieving the tension of the cervix, which he believed to be the cause of the vomiting. Professor Tarnier, by the introduction of a vaginal plug, arrested the vomiting of pregnancy, which result he attributed to the steadying action which it had upon the uterus. But, for various reasons, when a patient first consults us regarding vomiting occurring during the pregnant state we are scarcely justified in having recourse to any of these modes of treatment, or in even making a vaginal examination at all, provided, of course, there has not been total failure from the adoption of medicinal remedies. As a general rule, we must first exhaust these before we have recourse to operative remedies. I have never had occasion to dilate the os, or to cauterise it, or to replace the uterus for the cure of vomiting. No doubt in some cases I have had to try a variety of medicinal agents before the desired effect was produced, but latterly in the use of ingluvin in 5-grain doses three times a day I have been pretty successful in the treatment of this complaint. If time permitted I could cite a large number of cases in which bismuth, morphia, hydrocyanic acid, bromide of potassium, oxalate of cerium, and some others were tried without benefit, and in which ingluvin at once arrested the vomiting. Of course I have also had cases in which this remedy appeared to have very little effect, and in which others were more beneficial, but, on the whole, I have had more satisfaction and better results from its use than I have ever had from any other remedy. Ingluvin is an American preparation made from the gizzard of the hen. It is therefore a kind of pepsin.

If we might found a *post hoc* argument upon the good effects of this drug in the treatment of the vomiting of pregnancy we might conclude that the disease is not in all cases of nervous origin depending upon reflex irritation from the uterus, but is in some cases a veritable dyspepsia, probably arising from the altered condition of the circulation and the quality of the blood during pregnancy.

*Adherent Placenta.*—In 1835 Sir J. Simpson drew attention to inflammation of the placenta. The symptoms, he thought, were not well marked, but pains in the uterus and painful movements of the child created a presumptive evidence of its existence. The most marked symptom is, I believe, a constant aching pain, confined to one point. I think where a pain of this character exists you can almost say with certainty that there is inflammation at the placental site, and you will most likely have a retained placenta. Dr. J. Henry Bennett, in a paper to the *British Medical Journal* in 1875, casually pointed out this connexion. Even in cases in which the placenta has naturally come away after the existence of pain of this kind, I have always found it hard and

fibrous to the feel, and, from its appearance, creating a doubt in my mind whether it had come away entire or had left small patches behind. The frequency with which these cases are followed by offensive lochia and feverish symptoms leads me to think that minute portions of the placenta do remain behind, adherent to the uterine wall. With patients who suffer much from uterine pain during pregnancy I always come prepared to their confinement for retention of the placenta, and a short time before the termination of the labour I give a full dose of infusion of ergot, in the hope that the firm contraction thereby set up may break down adhesions and expel the placenta.

There is no operation that one should be more slow of performing than the removal by the hand of an adherent placenta. The only maternal death I have ever had that I believe depended upon operative interference was after the removal of an adherent placenta. There was very great difficulty in peeling it off, and though I believe I brought it away entire the patient died of septicæmia on the seventh day after labour. I formerly thought nothing of removing an adherent placenta before that occurrence if there was any delay, but now I prefer to wait and to give a good dose of ergot, with the hope of effecting its expulsion.

*Forceps.*—There is still some difference of opinion as to the application of the forceps, especially in what is called the high operation when the head is at the brim. When the head is low down, the os fully dilated, and labour progressing slowly, authorities are pretty unanimous in recommending its speedy termination by the use of the forceps as a safe and justifiable proceeding for both mother and child.

However, in the high operation when the head is at the brim and the os not fully dilated there is considerable difference of opinion as to the use of the forceps. Some hold the operation should not be performed until the os is fully dilated, others that it may be performed as soon as the os is sufficiently open to permit of the application of the blades, provided, at the same time, that it is soft and dilatable. If the os is hard and rigid all are agreed that the operation should not be performed, at all events, until by the use of hot baths, chloral, chloroform, or some other agents, the rigidity has been overcome.

When other indications for the use of the forceps exist I do not wait, if it is soft and dilatable, until it is fully dilated. The operation, if carefully and slowly performed, will assist the process of dilatation, and I have never known it to do any injury. Recently, in consultation with Dr. M'Harry, I performed the operation with great ease in a case in which the diameter of the os was not more than an inch during the pain, and where there was barely room to introduce the blades. Of course in this case the parts were all soft and lax; the patient was dying comatose of tubercular meningitis; she was in the seventh month of pregnancy; the child was living, but the pulsations were becoming weak;

and we thought it was a most justifiable proceeding to make an effort to save the child—and in this we were fortunately successful.

When the bony pelvis is contracted from deformity, but not to such an extent as to preclude all hope of delivering a living child with the forceps, it is usually recommended to leave the case to natural efforts for some hours, even after the rupturing of the membranes. It is said these efforts, if they do not effect delivery, will so mould the head as to make it pass more readily on the application of the forceps.

This is a point upon which I am not satisfied. If the bones of the foetal head are feebly ossified, if the fontanelles are large and open, and the sagittal suture also open, and easily traced from one fontanelle to the other, some moulding of the head and overlapping of the parietal bones will undoubtedly take place, with consequent reduction in its size.

But if the fontanelles are small, and ossification of the bones firm, and very slight possibility of overlapping of the parietal bones, the moulding which such a head will undergo in a slow difficult labour will be more apparent than real, and will be due to the lengthening out of the head from the development of the caput succedaneum.

If any moulding or reduction of the foetal head does take place it is counterbalanced by the dryness and tumefaction of the soft parts which are sure to set in, and which make natural and instrumental delivery much more difficult and dangerous to both mother and child. I was forcibly impressed of the necessity of early operation in a case which I attended in the year 1877. The patient was a small rickety woman, not much over four feet in height. It was her fourth confinement; the three previous ones were instrumental, and the children dead born.

A very large projection of the promontary of the sacrum, which inclined to the left side, was discovered on examination. It was so near to the vulva that on first touching it I thought it was the child's head coming down on the perinæum. The head was, however, in front of this, and high up; the membranes were intact; the os was about three quarters dilated, but soft and dilatable; the soft parts were all moist and in good condition; the head was presenting in the first position.

I stated at once that natural efforts would not effect delivery, that I was afraid I would require a consultant, but that I would first try the use of the instruments myself. I ruptured the membranes, and managed to get the forceps nicely locked over the ears. By forcible traction during the pains, and loosening the blades in the intervals, so as to relieve pressure on the head, I at length brought it through, and she was delivered of a living child.

It was only then I learned that the three previous deliveries were craniotomies; that she was usually two or three days ill; had two medical attendants each time, and that all had expressed their opinion that delivery at term of a living child would be an impossibility; and that

for her own safety, if she again became pregnant, premature labour should be brought on at the seventh month. My success in this case, I believe, depended upon early operation, when the parts were moist and afforded every facility for the gliding over them of the head. She was only about three hours ill. I have since attended her in confinement, but found more difficulty; she had been longer in labour before sending for me. I delivered her with the forceps, but the child was dead, or rather died immediately after birth.

Since the above was written I have again attended this patient, and by early operation delivered her of a living child.

Dr. Playfair, in speaking of the risk to the mother in labour obstructed by a contracted pelvis, says—"The long-continued and excessive uterine action produced by the vain endeavours to push the child through the contracted pelvic canal, the more or less prolonged contusion and injury to which the maternal soft parts are necessarily subjected (not infrequently ending in inflammation and sloughing, with all its attendant dangers), and the direct injury which may be inflicted by the measures we are compelled to adopt for aiding delivery, all tend to make the prognosis a matter of grave anxiety." Now in the first part of that paragraph there is a general acknowledgment of the evils to the mother attending delay in obstructed labour, and in the second part the injury inflicted on the mother by the means we are compelled to have recourse to when natural efforts fail is only hypothetical—it may or may not take place.

When it is admitted that delay is attended with such injury to the soft parts as inflammation, sloughing, and their consequences, should we not endeavour by timely interference to prevent this injury being done? I think we should, unless there be a greater danger occasioned by interference. But as this interference is needed in the long run in the majority of cases, is it not as likely to produce then the same or, perhaps, greater injury than if it had been undertaken early? Again, in referring to the risk to the child in protracted labours, he says:—"Even in cases in which the contraction is so slight that the labour is terminated by the natural powers, it has been estimated that one out of every five children is stillborn; and as the deformity increases in amount, so, of course, does the prognosis to the child become more unfavourable. In the interests of the offspring it is therefore clear that there should not be too much delay in the labour; and the statistics of Dr. Johnston, of the Rotunda Lying-in Hospital, and others, show that the timely application of the forceps lessens very considerably the infantile mortality.

When, therefore, the conjugate diameter is about three inches (and in the case I quote it was not more), and there is scarcely a hope that labour will be terminated by the natural efforts, and if the os is dilated or dilatable, I would wait for no moulding, believing that the compression

exercised by the forceps and the moist and lubricated condition of the soft parts will amply compensate for this deficiency, and will give a better chance of a live birth, and do less injury to the mother.

Even when the disproportion between the pelvis and the foetal head is slight, and there is a fair possibility of labour terminating naturally but slowly, I think we are justified in assisting nature by the use of the forceps.

Those cases in which the cavity of the pelvis is deep and the tubera ischii approach close to each other, labour is usually difficult, painful, and slow. Pelves of this kind are often met with in this town among the working classes, and delivery is usually effected in the end by the forceps. Occipito-posterior positions of the child are also usually difficult and slow; and in these two latter cases I do not delay too long, because from experience I know that in the majority of cases the forceps have to be had recourse to in the long run. I have never seen any harm result from the timely use of the forceps, and in the last 500 cases of midwifery of which I have a record I find I used them fifty-five times, or once in about every nine cases.

*The Application of the Binder.*—The proper application of the binder is a matter, I believe, of very great importance, and yet very little reference is made to it in works on midwifery. The only directions regarding it are to pull it well down over the trochanters and hips, and to put it on comfortably tight.

Very often it is pulled down too low, and this not only prevents the patient from being able to pass water, but it also interferes with the free egress of the lochia, and may thus from retention cause putrefaction and septicæmia. It should be only so low as to give it a sufficient hold to prevent it slipping up around the waist.

Again, I have found that the pad, the use of which most obstetricians recommend, has occasionally an injurious effect. If, as directed, it is placed immediately over the uterus and the binder tightened on it from below, it will either slip over the uterus, or it will push the uterus before it high up in the abdomen.

If anyone takes a small hard pad and places it on the uterus, immediately above the pubis, and firmly tightens the binder upon it, you will find that it will shoot the uterus upwards in the abdomen. I have on several occasions, on my first visit after confinement, found the uterus lying at the margin of the costal cartilages in either hypochondriac region. In such cases there was always considerable secondary hæmorrhage, and I thought the position depended upon the relaxation of the uterus which generally accompanies hæmorrhage. I afterwards saw that it was the faulty application of the binder and pad which gave rise to both these conditions. The following case is an example:—

I attended Mrs. F. in her first confinement last August. She had



an easy labour, and a twin birth. Before applying the binder the uterus was firmly contracted, and there was little loss. I left her in a very satisfactory condition. Five or six hours afterwards a messenger came to say she was very faintish, and had a great loss. On loosening the bandage the uterus was found lying up under the right costal cartilages, and the pad in a position below it. I pressed the uterus down into its place, and the hæmorrhage ceased. Several other cases of a similar kind have come under my notice, and all were attended with secondary hæmorrhage of a trickling kind. I need not mention the evil effects likely to follow upon the enlargement, and the filling up of the interior of the uterus with clots—after-pains, inflammation, and septicæmia are the most immediate, subinvolution and displacements are probable remote effects.

The pad, if used at all, I think should be placed above the uterus, and not upon it, and care should be taken in pinning the bandage not to stretch it too tightly on a line immediately over the uterus, because the uterus not being so likely to go downwards will go upwards, and free itself from the pressure.

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#### MUSCULAR ACTION IN THE PATHOLOGY OF HIP DISEASE.

In the July number of the *New York Medical Journal and Obstetrical Review*, Dr. A. B. Judson, Orthopædic Surgeon to the Out-Patient Department of the New York Hospital, discusses some points in the morbid anatomy of hip disease, with special reference to the supposed effect of muscular contraction in promoting the progress of pathological changes in the articular structures. A careful review of the most important observations on record leads him to the inference that the crowding of the articular surfaces together by muscular action has no such effect. What mainly points to this inference is the fact that the primary lesions are not usually to be found in the superficial structures that enter immediately into the formation of the joint, but rather in the cancellous texture of the bones. This conclusion, however, casts no doubt upon the utility of the extension treatment, but simply leads to this interpretation of its beneficial action:—Aside from the fact that we are compelled, empirically, by reason of its anodyne quality, to use traction, there is ample rational ground for its use. Traction, however applied, is unavoidably accompanied by fixation. The most efficient apparatus for the application of traction is, at the same time, the most efficient means known to surgery for the solution of that difficult problem, the immobilisation of the hip-joint; and, finally, immobilisation is indicated by every feature of the pathology as revealed in morbid specimens.

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, July 15, 1882.*

Towns	Population in 1881 (Unre- vised)	Births Registered	DEATHS REGISTERED			DEATHS FROM ZYMOTIC DISEASES							Deaths from Phthisis	Annual Rate of Mortality per 1,000 Inhabitants
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		
Dublin, -	348,298	840	542	84	122	-	9	3	1	-	13	19	87	20.2
Belfast, -	207,671	541	349	66	57	2	3	3	3	1	18	15	60	21.9
Cork, -	78,361	186	131	15	32	-	5	-	-	1	5	3	18	21.8
Limerick, -	38,600	87	71	12	22	-	-	-	-	-	-	9	14	23.9
Derry, -	28,947	80	53	12	7	-	13	-	-	-	-	-	9	23.8
Waterford, -	22,401	39	33	5	15	-	-	-	-	-	1	4	4	19.2
Newry, -	14,782	31	13	-	6	-	-	-	-	-	1	-	2	11.5
Galway, -	14,621	31	13	2	5	-	-	-	-	-	2	-	1	11.6

### Remarks.

The cool, breezy, showery weather, which has so far characterised the present summer, has produced a remarkably good effect on the Public Health. Consequently the death-rate has been comparatively low in most of the Irish towns, with the exception of Limerick—where pulmonary consumption and diarrhoea were fatal, and Derry, where measles caused no less than 13 out of a total of 53 deaths. The mortality was in the ratio of 20.4 per 1,000 of the population annually in the sixteen principal town districts of Ireland; 18.7 in twenty-eight large English towns, including London, where it was only 17.9 per 1,000 per annum; 18.1 in Edinburgh, and 23.2 in Glasgow. If the deaths (23) of persons admitted into public institutions from localities outside the district are deducted, the death-rate within the Dublin Registration District becomes 19.4, while that within the municipal boundary is 21.4.

In the Dublin (Metropolitan) District 542 deaths were registered, against 631 in the preceding four weeks. Eighty-four infants under one year died, compared with 94 in the previous period, and 151 in the four weeks ending May 20. Zymotic diseases were credited with only 59 deaths in Dublin, the average number in the corresponding period of the previous ten years being 133.1, or more than double the number now

registered. There was again a decline in the fatality of measles and of fever. Of the 13 deaths referred to the latter disease, or group of diseases, 6 were ascribed to typhus, 6 to typhoid, and 1 to "simple fever," or fever of ill-defined type.

Only 2 deaths were attributed to smallpox in Belfast, against 8 in the preceding four weeks. Fever, on the contrary, seems to be more prevalent and fatal in that town than previously; the deaths were 18 against 12 in the four weeks ending June 17; of the 18 deaths 4 were caused by typhus and 11 by typhoid, while 3 were referred to "simple continued fever." Measles was rather fatal in Cork, and very fatal—as has been already stated—in Derry. The summer increase of diarrhoeal diseases is well known in the above Table, notwithstanding the cool, rainy weather. The deaths from this group of maladies in the 8 towns included in the Table were 50 compared with 29 in the previous four weeks.

Phthisis was very fatal in most of the towns for the time of year. Diseases of the organs of respiration were fatal in 78 cases in Dublin. The average number of deaths in the previous ten years was 101·1. Bronchitis caused 46 of the 78 deaths (average = 67·3), and pneumonia 20 (average = 17·5).

On Saturday, July 15, the cases of the chief epidemic diseases under treatment in the principal Dublin hospitals were as follow—smallpox, 0; measles, 4; scarlet fever, 10; typhus, 18; typhoid, 12; pneumonia, 12.

The mean temperature of the four weeks was 58·5° in Dublin, 59·3° at Greenwich, and 57·1° in Edinburgh.

#### METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of June, 1882.*

Mean Height of Barometer,	-	-	-	29·873 inches.
Maximal Height of Barometer (on 1st at 9 a.m.),	-	-	-	30·352 „
Minimal Height of Barometer (on 9th at 9 a.m.),	-	-	-	29·430 „
Mean Dry-bulb Temperature,	-	-	-	55·8°.
Mean Wet-bulb Temperature,	-	-	-	52·0°.
Mean Dew-point Temperature,	-	-	-	48·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·344 inch.
Mean Humidity,	-	-	-	77·2 per cent.
Highest Temperature in Shade (on 30th),	-	-	-	68·5°.
Lowest Temperature in Shade (on 13th),	-	-	-	40·4°.
Lowest Temperature on Grass (Radiation) (on 16th),	-	-	-	37·2°.
Mean Amount of Cloud,	-	-	-	60·4 per cent.
Rainfall (on 25 days),	-	-	-	2·884 inches.
Greatest Daily Rainfall (on 23rd),	-	-	-	·386 inch.
General Directions of Wind,	-	-	-	W.N.W., S.E.

*Remarks.*

This was a very changeable, showery, cold month, further characterised by the prevalence of strong westerly winds, a mean temperature some  $2^{\circ}$  below the average of the previous seventeen years, a rainfall above the average (2.384 inches compared with 1.981 inches), and a great excess of rainy days (25 compared with an average of 14.1). Usually June is one of the driest months in the year. The first day was very fine and bright, but the weather broke up on the 2nd, continuing in a very unsettled state for a fortnight. Until the 10th the barometer was comparatively high (30 inches or upwards) over Spain and the south of France, while a succession of depressions travelled north-eastwards across Ireland and Scotland, and a number of subsidiary disturbances passed over England. Consequently fresh southerly to westerly winds and frequent heavy showers were reported from all parts of the United Kingdom. On several occasions thunder and lightning accompanied the showers, and in some instances hail fell. On the 10th a strong and cold N. wind cleared the sky in the rear of a deep depression, which subsequently lay for some time over the south of Norway and Sweeden. During this period fresh or strong N.W. winds prevailed, and temperature was very low for the season; on the 12th showers of cold rain and hail fell in Dublin, and at night the thermometer in the screen went down to  $40.4^{\circ}$ . About the 19th temperature began to rise decidedly, although frequent showers continued to fall. This rise of temperature was brought about by a marked change in the relative distribution of atmospherical pressure over the N.W. of Europe, southerly (S.W. to S.E.) winds taking the place of the cold north-westerly blasts which had previously been so prevalent. On the 20th an area of high barometer became established over Scandinavia, where magnificent summer-like weather set in, lasting for several days. Even within the Arctic circle the thermometer rose above  $80^{\circ}$  Fahr. on the 26th and 27th; but this was quickly followed by a fall of temperature amounting to  $35^{\circ}$  on the night of the 27th. Just at this time the weather improved greatly in Ireland, where the last four days of the month were warm and chiefly fine. In Dublin lightning was seen on the 4th, thunder was heard on the 22nd and 23rd, and hail fell on the 12th. Solar halos were observed on the 11th, 16th, and 24th. The atmosphere was foggy on the morning of the 27th. Rainbows appeared on several days, and the wind was frequently strong and squally.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

HISTORY AND STATISTICS OF OVARIOTOMY.

DR. J. E. JANVRIN, to whom has been allocated the task of writing the chapter on the above subject in a "System of Gynæcology by American Authors," now in process of preparation, requests us to ask those who are in a position to give information to answer the following questions: 1. Name of operator? 2. Age of patient? 3. Nationality? 4. Married or single? 5. Aspiration or previous tapping? 6. Duration of growth? 7. Laparotomy or vaginal operation? 8. Condition of patient at time of operation? 9. Were antiseptic precautions used? 10. Was the spray used? 11. Long or short incision? 12. Adhesions or other complications? 13. Double or single ovariectomy? 14. Pathological features of cyst? 15. Treatment of the pedicle? 16. With or without drainage? 17. Duration of operation? 18. Complicated or uncomplicated history after operation? 19. Antipyretics used, if any? 20. Result—Cause of death, if any? 21. Primary or secondary operation? The answers to be as concise as possible. In many cases a simple "yes" or "no" will suffice. Blanks, containing lists of the questions referred to, will be sent to any address. All communications should be addressed to Dr. J. E. Janvrin, at 191, Madison Avenue, New York, before Sept. 1st of the present year.

TREATMENT OF HYDROCELE.

J. S. WIGHT operates for hydrocele as follows:—The patient being anæsthetised, a long curved bistoury is introduced in front near the lower part, the point being brought out in front near the upper part, the tissue between the two points being readily divided by the edge of the bistoury. If the testicle is so diseased as to render it necessary, it is removed; otherwise, it is left *in situ*. If gelatinous fibroid material is found about the testicle, it is carefully removed with a pair of scissors. The opened cavity is then washed out with a two per cent. carbolic acid solution, and packed with oakum containing carbolised oil, which is kept in place by a proper bandage. This must be left for two or three days, or until more or less suppuration takes place, so that it can be easily removed without injuring the young granulations, and without exciting bleeding. The wound is then dressed with oakum, carbolised or not, from day to day, the waste products being carefully removed, till scar tissue is formed and the sac obliterated, which ordinarily occurs in a few

days. Dr. Wight considers this operation as sure in its results, and safer than any method of treatment by the injection of irritating fluids in order to cause inflammation and adhesion.—*Med. and Surg. Reporter*, Dec., 1881, and *St. Louis Courier of Medicine*.

#### A PAINFUL AFFECTION OF THE WRIST.

IN the July number of the *New York Medical Journal and Obstetrical Review*, Dr. Edward H. Bradford, Surgeon to Out-Patients, Boston City Hospital, relates three cases of a painful affection of the wrist, the features of which were—pain referred to or most severe at the middle of the carpus, slight swelling, an absence of constitutional disturbance, and with no interference, or but partial interference, with motion of the articulation between the carpus and the radius and ulna. The symptoms were relieved by fixation, and recovery took place finally after a period of rest. Judging from analogy, Dr. Bradford remarks, it seems probable that the cases here reported were similar to a degree to a synovitis of the medio-tarsal joint, described by Gosselin under the term tarsalgia adolescentium, differing somewhat in their course from the fact that the wrist, a part easily immobilised from the first, and not the tarsus, was affected. Leaving out of account the smaller synovial membranes of the carpus—i.e., those between the pisiform bone and the cuneiform, the trapezium and the metacarpal bone of the thumb, the ulna and the fibro-cartilage at the joint—there are two large synovial sacs—viz., that between the main carpal bones and the radius and cartilage covering the ulna, and that between the main bones of the carpus, of which the os magnum is the larger and central bone. From the symptoms in the cases reported, the author thinks that the inflammation was one affecting this latter synovial sac, and limited to this alone, and that they may therefore be termed cases of synovitis of the carpus.

#### DIABETES.

DR. SCHMITZ, of Neuenahr (*Deutsche med. Woch.*, 1881, Nos. 48, 49, 51; *Wiener med. Woch.*, 1882, No. 11), has tabulated the results of his experience in 600 cases of diabetes, and has found that 407 of the patients were males, and 193 females. The largest number, 196, occurred in the decade between 50 and 60; the youngest patient was a girl aged 4, and the eldest, a man aged 78. The occurrence of diabetes is undoubtedly influenced by a hereditary predisposition, which is found in families in which there are, or have been, psychoses of any kind. Tubercular families are also predisposed to diabetes. In 188 cases there were nervous disturbances as direct exciting causes; in 158 the cause was the too liberal use of sugar and food containing it; in 45 cases gout and general debility, after severe acute or chronic affections. The specific gravity of the urine varied between 1025–1035. Occasionally from 1

to 1·5 per cent. of sugar was found to be present in urine of specific gravity 1015–1013. The prognosis as regards life, even to complete recovery, is by far not so hopeless as formerly considered. Dr. Schmitz enumerates a series of cases in which the patients remained for years without a trace of sugar in their urine, whilst living on a regulated diet, which was not even antidiabetic, in some cases only cane-sugar being strictly avoided. Some cases of long-standing diabetes may even be recovered from by a correct treatment ; and the author relates cases which were completely cured, and did not relapse, even after years of return to highly saccharine food. The prognosis rests upon the following factors : 1. Whether the illness were diagnosed early and were correctly treated, or whether it had already existed some time. 2. The exact carrying out of the directions by the patient. 3. The ætiological character of the affection. 4. The age of the patient. 5. The amount of saccharine matter which can be borne with impunity. In recent cases the prognosis is favourable ; diabetes, as a result of diseases of the central nervous system, or of severe chronic diseases, has a most unfavourable one. Gouty diabetes, and that following mental depression and the liberal use of saccharine food, is the most favourable for treatment. Up to the seventh year the prognosis is not bad, but becomes so from the tenth to the thirtieth, and is less favourable as age advances. Those cases are decidedly unfavourable in which the exclusive use of a fish and meat diet has not succeeded in causing the disappearance of the sugar from the urine ; but those in which the diet, consisting of eggs, the leafy parts of vegetables, and a little mild cheese, keeps the sugar out, only to re-appear on the administration of cane-sugar, starch, or fruit, or roots, enjoy a most favourable prognosis, and are least liable to relapses.

F. W. ELSNER (in the *Lond. Med. Record*, June, 1882).

#### THE TREATMENT OF DIABETES.

DR. WM. SQUIRE, in a very suggestive paper in the *Practitioner*, May, 1882, p. 346, makes, among others, the following remarks :—Bethesda waters are utterly valueless. The value of codeia is beyond dispute. Moisture is restored to the skin by two or three drops of carbolic acid in an ounce of water, given three or four times a day for short periods. A similar solution, sprayed into the fauces, relieves the dryness of the mouth and throat. This solution of carbolic acid should always be given during an intercurrent abscess or boil, for two days before any incision is made, in diabetic subjects. In one form of albuminuria, coexisting with diabetes—viz., where there is parenchymatous nephritis appearing in the course of typical diabetes, milk must be absolutely forbidden. Grave anxiety, caused by the persistence of both sugar and albumen, has been shortly relieved after the milk has been stopped, and cream exclusively substituted. An agreeable cheese-cake may be prepared in the



following way:—Grate one ounce of bread with the rind of two lemons, and mix with half an ounce of glycerine; with this whisk up the whites of three eggs, two ounces of cream, and one of fresh butter, melted by heat; add also the juice of two lemons, and the yolks of three eggs, well beaten; mix all together, and bake, in ramakin cups, for about twenty minutes in a rather quick oven. A little more glycerine, or a little less lemon juice, will modify the flavour and consistence of this confection. It is to be eaten when cold.—*Lond. Med. Record*, June 15, 1882.

#### LUXATION OF THE SEMILUNAR CARTILAGE OF THE KNEE-JOINT.

NICOLADONI reports a case of this unusual affection, which he says is frequently confounded with a loose cartilage. Observations are on record where the meniscus could be readily felt as dislocated, and where, after reduction, the symptoms disappeared. In the writer's case (in which the symptoms followed an accident in the gymnasium) the joint was cut down on in the expectation of removal of a loose cartilage, when it was discovered that the semilunar cartilage caused the difficulty, and the synovial membrane was stitched together in the hope that the contraction of cicatrisation would fix the cartilage. This did not take place, and the patient, after a ready recovery from the operation, was in no way better of his previous symptoms. On a dissecting room cadaver a similar lesion was found, which, on investigation, was found to be a loosened and altered semilunar cartilage.—*Boston Med. and Surg. Journ.*, April 20, 1882.

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### NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

#### *Fellows' Compound Syrup of the Hypophosphites.*

THIS preparation has now been for so long a time in the hands of the profession that an accurate opinion may be formed almost from that fact alone as to its merits. A somewhat extended use of it by ourselves has satisfied us that it is a remedy of great value as a tonic and a stimulant. We have given it to children during convalescence from some of the various forms of infantile continued fever, and after the exanthemata, with excellent results. Indeed, in suitable doses, it seems to be one of the best and most easily administered tonics for delicate children. In cases of incipient and threatened pulmonary phthisis we have found it agree very well, and it has been retained by the stomach, and apparently given tone to that organ, in cases in which some of the mildest tonic preparations of the British Pharmacopœia could not be tolerated. One great advantage of Fellows' syrup is that its composition is known, constant (as far as we have been able to judge), and stable. Some imitations of it that we have seen certainly did not possess the last essential quality.

THE DUBLIN JOURNAL  
OF  
MEDICAL SCIENCE.

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Authors of Communications are requested to write the prescriptions in their papers in full, and in English.

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AMERICAN Books and Journals often come to hand with such an amount of Charges on them, that we cannot release them. It is requested that all communications from the United States shall be forwarded to MR. JOHN WILEY, *New York*; or Mr. HENRY C. LEA, *Philadelphia*, directed to us, to the care of Messrs. TRUBNER and Co., *London*.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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SEPTEMBER 1, 1882.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. VII.—*A New Method of Reduction in Dislocations of the Humerus.* By JAMES E. KELLY, F.R.C.S.I.; Lecturer on Surgery in the Ledwich School of Medicine, Dublin; Surgeon to Jervis-street Hospital, &c.

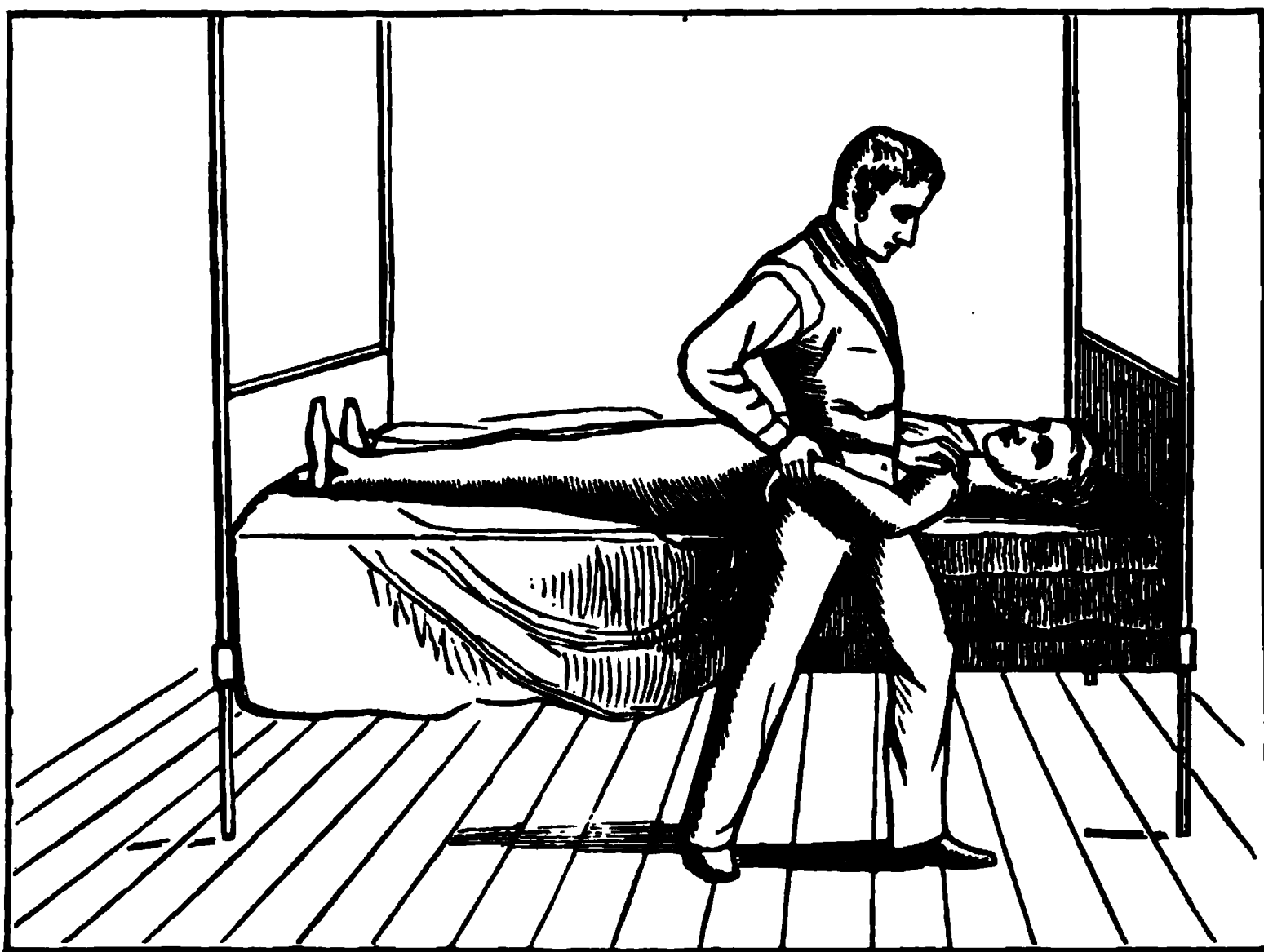
SOME years ago I read a few notes before the Surgical Society of Ireland upon certain expedients which I found useful in the reduction of various dislocations. Since that time, my connexion with an accident hospital such as Jervis-street, my surgical practice, and the kindness of my friends, have afforded me so many opportunities of testing the utility of those measures, that I am anxious to bring them again under the notice of the profession.

On this occasion I shall confine my remarks to luxations of the humerus, and I shall briefly narrate the circumstances under which I was fortunate enough to discover my method of reduction. Late one night, a sailor, aged forty years, was admitted into Jervis-street Hospital with intracoracoid dislocation. He was a man of remarkable muscular development, and of a highly nervous temperament. After trying unsuccessfully some of the ordinary modes of reduction, I thought of controlling his vigorous and powerful resistance by the administration of chloroform, but upon examining his heart, I discovered such extensive valvular disease that I hesitated to produce anæsthesia without formal consultation, which was impracticable at such an hour. As the patient suffered great pain, and was clamorous for speedy relief, I repeated my efforts, and exhausted every means of reduction with which I

was conversant; until in a mental condition, intermediate between desperation and a vague sense of the utility of the measure, I turned my back towards the patient, who was on a mattress, and, lying across him, I drew his arm round my pelvis, and giving my body a sudden turn, or version, I was delighted by the agreeable sound and sensation which indicate the reduction of a dislocation.

The striking success of this expedient, after the failure of so many time-honoured and valuable modes of reduction, produced in my mind a train of thought which resulted in the elaboration of the method which I recommend, with a confidence based upon the extensive experience of over twenty successful cases, with but one failure.\*

Fig. 1.



For my operation, the selection of a couch or bed is of importance. It should be firmly fixed, and hard, and, when a choice is practicable, I prefer it, for the subglenoid dislocation, to be about three inches lower than the great trochanter of the operator, whilst

\* This occurred in a Norwegian sailor, in whom a subclavicular dislocation of eight weeks standing subsequently resisted a mechanical force, which, although most carefully applied, produced serious inflammation, and such an extravasation that evidently some important axillary vessels were ruptured. An interesting paper on this accident, by Dr. Körte, of Berlin, who refers to thirty-eight cases, is reviewed in the *London Medical Record* of July, 1882.



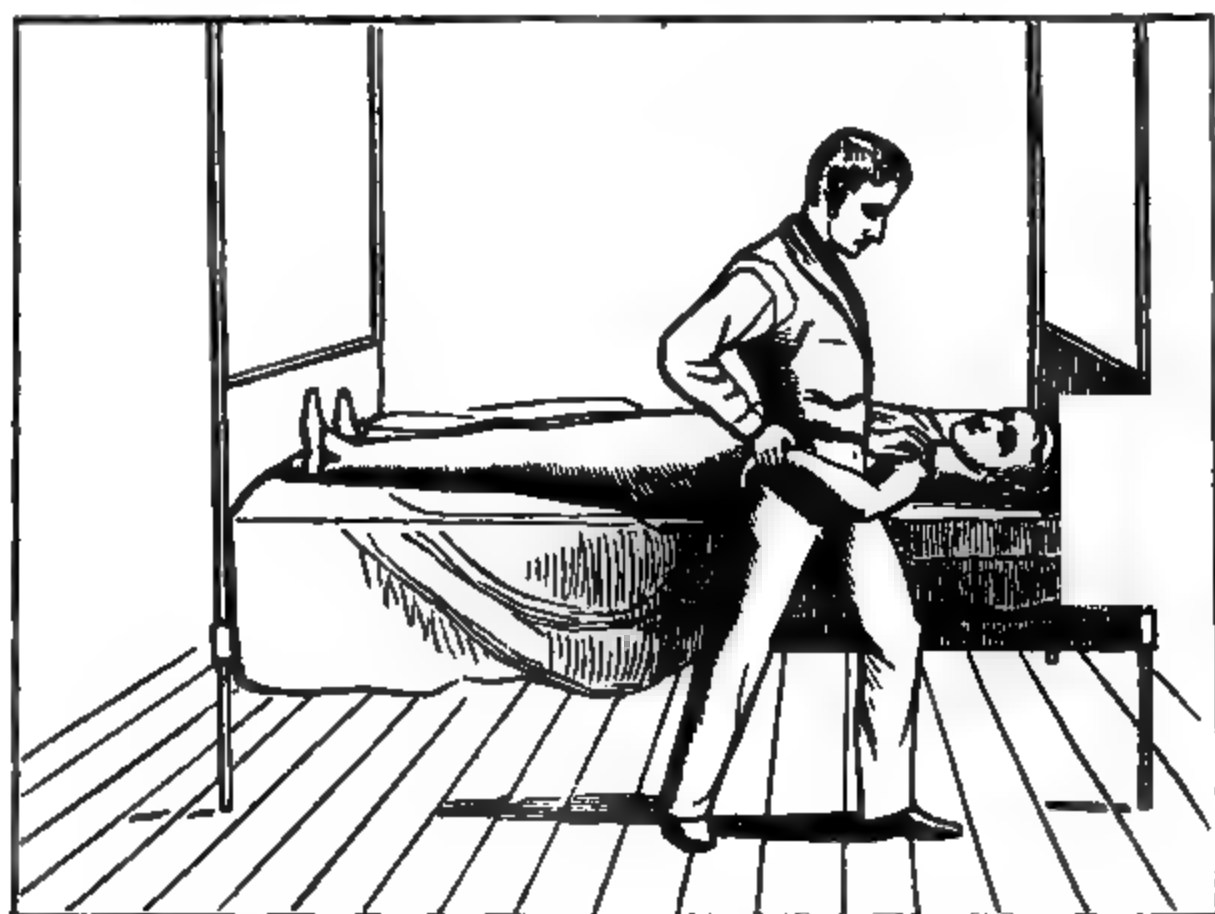
one lower still by a few inches, for the anterior dislocations, and a little higher for the posterior, allows the force to be applied advantageously in the direction of the glenoid cavity. The patient should be placed as close as possible to the edge of the couch, on his back, with his head low. In order to make the description of the procedure intelligible, I shall divide the operation into two stages. The first, or preparatory stage, in which the surgeon assumes the most favourable position for the reduction, is well depicted in Fig. 1. The operator places the injured arm at right angles to the body, and standing against it, with his side to the patient and his hip pressed firmly, but not roughly, into the axilla, he folds the arm and hand of the patient closely round his pelvis, and fixes the hand firmly by pressing it against the crest of his ilium. The second stage, during which the reduction is effected, is very simple, consisting merely of a rotation, or version, of the surgeon's body into the position represented in Fig. 2, with a force and rapidity which necessarily vary with the peculiarity of the dislocation—some yielding most readily to a sudden and powerful effort, and others to gentle and gradually increasing traction. \*

Fig. 2.

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Fig. 2.



\* In both the woodcuts the operator's right hand should be represented as being more posterior, and grasping the hand of the patient rather than the wrist.

In reviewing this manoeuvre I shall briefly contrast the substitutes which it affords with the recognised methods of making extension, counter-extension and coaptation. In the application of extension, instead of the grasp of the operator, which is often insufficient, the clove-hitch or other knot, the special bracelets, combined with flexion of the fore-arm, bandages, chamois or adhesive plaister, I propose the simple folding of the arm, fore-arm and hand round the pelvis, which, forming a series of angles, distribute the resistance, so as to enable the operator, with one hand, to afford sufficient fixity for the application of the powerful extending force. For the limited strength of the operator, the uncertain and mutually obstructive force derived from numerous assistants, or the dangerous and sometimes disastrous mechanical extension by pulleys or adjusters, I would substitute a perfectly controllable and easily sustained power of some hundreds of pounds, derived from nearly all the muscles of the trunk and of the upper and the lower extremities. Again, for counter-extension, which must have been a matter of great difficulty, when such means were necessary, as the split-sheet, the fixation-table, the albi, or the special belts, the numerous assistants, the suspension of the patient over a door, through a ladder, or from the ceiling, I suggest the weight of the patient's body and the resistance afforded by its traction or friction over the rough surface of the couch. For coaptation, in lieu of the various fulcra, such as the heel, the knee, the bed-post, as well as the special balls, the jack-towels, &c., I supply one which is safe and efficient—safe, inasmuch as the well-padded gluteal region is unlikely to produce such injuries as laceration of the axillary vessels or fracture of the ribs;<sup>a</sup> and efficient because, in the torsion of the body, the hip materially assists by forcing the head of the humerus towards the glenoid cavity, and by its volume it makes the extension tend to the desirable angle of 45°, which places the deltoid and supra-spinous muscles in the most favourable condition. For any additional “manipulation,” the surgeon has the hand next the patient's axilla disengaged for such manoeuvres as lifting the head of the humerus into its cavity, making traction upon it forwards or pressure backwards, according to the nature of the dislocation. The fixation of the scapula, a point of considerable importance, is secured by its position between the couch and the body of the patient, while its inferior angle is supported by the gluteal region of the operator.

<sup>a</sup> In at least one case of dislocation I have seen this accident occur.

One of the great advantages of this operation is the ease with which a surgeon can reduce almost any dislocation without assistance or the appearance of violent exertion; but should a case of peculiar difficulty present itself, additional extension may be applied by one or more assistants making mediate or immediate traction on the patient's arm; and the counter-extension is as readily increased by pressure on his uninjured shoulder or his pelvis.

The importance of being able to dispense with anæsthesia in operations is indisputable, especially when the surgeon is summoned to perform them suddenly, and without assistance, as so frequently occurs in dislocations. I claim this advantage to a very great extent for my method, as in only one case in my experience have I had to resort to that or any other auxiliary.

My colleagues, Messrs. William Stoker and Cranny, have informed me of seven dislocations occurring in their practice, and reduced by my method.

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**ART. VIII.—*Pyæmic Panophthalmitis resulting from Embolism in Mitral Stenosis.*** By JOHN WILLIAM MOORE, M.D., Univ. Dubl.; Vice-President, Fellow, and Censor of the King and Queen's College of Physicians; Physician to the Meath Hospital and to Cork-street Fever Hospital; Lecturer on Practice of Medicine in the Carmichael College of Medicine.

IN January, 1876, I communicated to the Medical Society of the College of Physicians the particulars of a case of pyæmia from phlebitis occurring in the puerperal state.\* A few days before the patient's death, panophthalmitis of the left eye suddenly supervened, and sight was rapidly lost. At the autopsy the structures of the eyeball were found disintegrated, and the left ophthalmic vein and cavernous sinus proved to be the seat of thrombosis, or embolism. During the woman's life, Dr. Charles E. Fitzgerald, who kindly saw the patient with me, at once recognised the case to be one of suppurative chorioiditis; and in the discussion on my paper before the Medical Society, Dr. Finny very clearly explained the sequence of pathological events which led to the patient's death. An inflammation began in the uterine sinus, and extended to the left external, internal, and common iliac veins, all of which vessels were filled with softening thrombi, moderately adherent to

\* A Case of Pyæmia, attended by Sudden Destruction of the Eye. Dublin Journal of Medical Science, February, 1876. Vol. LXI. Page 158.

the walls of the vessels. Inflammatory emboli, becoming detached from the iliac veins, had been carried by the pulmonary artery to the lungs, where hæmorrhagic infarctions were the result. From the lungs the pulmonary veins carried minute pyæmic emboli into the left ventricle, and thence through the branches of the ophthalmic artery into the chorioidal arteries, which were plugged and thus became the focus of purulent disease of the structures of the eye.

The terribly fatal character of this variety of panophthalmitis, and the surpassing interest which attaches to its pathological phenomena, warrant me in recording a somewhat similar case which recently came under my observation. For the opportunity of seeing it I am indebted to the kindness of my friends Drs. Edward J. O'Neill and Charles E. Fitzgerald. As I did not visit the gentleman until his illness had lasted at least five days, Dr. O'Neill, his usual medical attendant, very kindly furnished me with the following details of his medical history:—

Mr. J. P. K., aged forty-four years, a widower, residing at Rathgar, by profession a solicitor, but possessed of ample private means, suffered twenty years ago from a severe attack of acute rheumatism. Five years subsequently the disease revisited him in a less acute form, and eight years ago he had a third and slight attack. There is no positive evidence of pericardial or endocardial mischief at the time of these visitations of rheumatic fever; but it is a significant fact, that in July, 1876, and again in January, 1877, Mr. K. was attacked by hæmoptysis. There is no reason to believe that the spitting of blood on either occasion was phthisical, whether we regard the family history or reflect that the bleeding was not followed by the development of signs of pulmonary consumption. On the other hand there is strong presumptive evidence that the hæmoptysis was that of "pulmonary apoplexy," so called—the result of obstructive disease of the mitral valve. This opinion is confirmed by the occurrence in January, 1879, of a sharp though short attack of bronchitis.

It may be mentioned here that Mr. K. led an active life, and was passionately fond of hunting. He unfortunately lost his wife some years ago, and had since then lived more or less a life of excitement, against the evil consequences of which his friend and medical adviser, Dr. O'Neill, had repeatedly warned him.

A few weeks before his fatal illness Mr. K. visited London and Paris. On his return home he spent some time with friends; and on Tuesday, August 1, he went to a dancing party, where he partook freely of iced claret-cup. To this he attributed his illness, which began on Thursday,

the 3rd of August. Early on the following morning, August 4, Dr. O'Neill was requested to visit Mr. K., and, on doing so, found him suffering from what at first seemed to be a severe bilious attack, brought on by indiscretion in eating and drinking. There was general derangement of the digestive system, with nausea and bilious vomiting. As he had been constipated, he had taken an aperient even before Dr. O'Neill visited him. There was complaint of intense lumbar pain, and of rheumatic pains in the knees and elbows. The urine was abundant, but very turbid, and already contained a trace of albumen. The pulse was not quick at this time, nor does the temperature appear to have been much above normal. Poultices of linseed meal and mustard were applied freely to the back and abdomen, and, on their removal, medicated cotton and oiled silk replaced them. Dr. O'Neill prescribed a mixture of bismuth and bicarbonate of sodium, and ordered beef-tea, ice, milk, and Carrara water, and a small quantity of sherry in Carrara water.

At Dr. O'Neill's visit next day he was informed that Mr. K. felt so much better the previous evening that he came down to the diningroom; but afterwards he passed a rather uneasy night, and early next morning was seized with a shivering fit, which lasted some time. The dyspeptic symptoms had abated, but Mr. K. complained of pain in the right eyeball, rapidly increasing impairment of vision, and great intolerance of light. He attributed this to some vinegar, with which his forehead was being bathed, having got into his eye. The lumbago and the rheumatoid pains in the knees and elbows had subsided considerably. During Dr. O'Neill's visit a second rigor seized Mr. K., lasting until he took some brandy and water. When seen again, at 9 p.m., he was very feverish; pulse, 100; temperature,  $100^{\circ}$ ; his mind at times wandering; the vision in the right eye worse—indeed, almost gone.

On the following day, Sunday, August 6, the feverish symptoms had increased, both pulse and temperature being higher, and the aberration of mind being more decided. There was a deepening icteroid tinge of the skin and conjunctivæ.

On Monday morning, August 7, Dr. Fitzgerald, who had a few years ago operated on Mr. K. for fistula lachrymalis of the right eye, visited him, and detected a rapidly advancing panophthalmitis, which he more than suspected to be of embolic origin. In the afternoon of this day I joined Drs. Fitzgerald and O'Neill in consultation.

At this time Mr. K.'s aspect was that of a man who was "sick unto death," and a suspicion that his malady was pyæmia could not fail to cross the observer's mind. The patient roused himself with an effort when we entered his room, but was evidently prostrate. He was considerably jaundiced, but the yellowness had in it an earthy tinge. The conjunctiva of the left eye shared in the icterus, and the swollen right eye, about which there was much chemosis, was also tinged. The



tongue was furred, with a dry, brown streak down the centre. The mucous membrane of the fauces and pharynx was hyperæmic. The pulse was comparatively regular, beating at the rate of 98 per minute; the respirations were quick (44 per minute) and shallow; temperature, 100·6°. Physical examination of the chest revealed moderate hypertrophy of the left chambers of the heart. Over the apex beat, in the fifth and sixth intercostal spaces, exactly below the nipple, a slight thrill was felt, and in this situation a prolonged presystolic murmur of no great intensity was heard. But even a more interesting physical sign was a remarkable intensification of the second cardiac sound in the pulmonary area (sign of Skoda). This loudness of the pulmonary second sound was not only relative as compared with the rather feeble aortic second sound, but also absolute.

As regards the lungs, there was little to note over the front of the chest beyond some noisy compensatory breathing, while posteriorly the percussion note was, if anything, hyper-resonant over the bases, where also some subcrepitant râles were audible. The liver projected about an inch into the right hypochondrium below the margin of the ribs, notwithstanding that there was considerable tympanites. None of the joints were swollen, or very painful to the touch.

The diagnosis we arrived at was—post-rheumatic mitral stenosis, leading to embolism of one or more of the ciliary arteries of the right eye, and consequent suppurative chorioiditis and panophthalmitis. There seems to be little doubt, from the history of the attack, and the patient's state, that the embolon was of a septic description.

A most unfavourable prognosis was given. We ordered the patient plenty of suitable nourishment, a very moderate allowance of stimulants, ice, and quinine in 5-grain doses, with 3 grains of chlorate of potassium every sixth hour. Every means was taken to insure his breathing a pure atmosphere.

During the next two days a decided improvement was noticed in Mr. K.'s condition, but a troublesome diarrhoea set in on Wednesday, August 9. The following day I again joined Drs. Fitzgerald and O'Neill in consultation. At this visit, as well as subsequently, we were struck by the hopeful way in which the patient spoke when questioned as to his feelings and prospect of recovery—and this, notwithstanding that he was truthfully informed of the dangerous nature of his illness. He felt "better;" "Oh! yes, he would do his best to get well"—these were his expressions. Pulse, 108; respiration, 44; temperature, 99·8°.

Tincture of the perchloride of iron was now added to his quinine and chlorate of potassium mixture, and he was given brandy in warm milk. The abdomen was kept covered with a laudanum and glycerine poultice. There was no further trouble from diarrhoea.

Next day, Friday, August 11, the physical signs of a passive obstruc-

tive congestion of the lungs were rather more marked. He had slept fairly. As he disliked the brandy and milk, whisky was given in an effervescing water instead. The icteroid tinge was gradually subsiding or giving place to a more pronounced earthy hue. The axillary temperature was rather higher, and the pulse more rapid.

On Saturday morning, August 12, a perceptible but delusive improvement was observed; his pulse and respirations were slower—108 and 40; temperature moderate. He had slept pretty well, and his mind was quite clear. He was able to take plenty of nourishment and his medicine without the least inconvenience.

This final rally did not last long, for on Sunday Mr. K. began to sink rapidly; in the evening he was moribund, and early on the morning of Monday, the 14th, he died, on the eleventh day of his illness. Unfortunately a *post mortem* examination could not be held.

Reviewing the clinical history of Mr. K.'s case, there can be little doubt that the sequence of events was as follows:—Three attacks of acute rheumatism, in one or more of which endocarditis occurred, involving the curtains of the mitral valve, and leading to mitral obstruction. That the valvular lesion was stenosis, is sufficiently borne out by the occurrence of two attacks of hæmoptysis, by the time of the accompanying murmur, and by the relative regularity as regards both rhythm and volume of the pulse beat. The greater frequency of hæmoptysis in mitral stenosis than in mitral regurgitation is admitted by all clinical observers. To quote a recent writer:<sup>a</sup>—"The cause is no doubt the backward pressure exerted by the contraction of the auricle (opposed as it is by the obstruction at the auriculo-ventricular outlet) upon the pulmonary veins; hence there is congestion of the pulmonary capillaries to the point of rupture. In mitral obstruction the capillaries suffer the *direct* pressure of the contracting auricle, whilst in regurgitation the auricle intervenes as a dilatable cavity between the contracting ventricle and the pulmonary veins."

Again, the time of the murmur, coincident with the auricular systole, is conclusive evidence of its obstructive origin.

On the third point, the relative regularity of the pulse in stenosis, writers do not seem to have laid sufficient stress. Observations made in the wards of the Meath Hospital have led me to the conclusion that *as compared with the pre-eminently irregular pulse of well-marked mitral regurgitation, the pulse of moderate and uncom-*

<sup>a</sup> Manual of the Physical Diagnosis of Diseases of the Heart. By Arthur Ernest Sanson, M.D., Lond. Third Edition. London: J. & A. Churchill. 1881. Page 204.

*plicated mitral constriction is regular both in rhythm and volume.* This clinical fact, as I would venture to call it, is easily explained. In mitral stenosis, the blood enters the ventricle at each auricular contraction, if slowly at least in a tolerably uniform stream, so that the necessary stimulus to contract is given to the ventricle at nearly equal intervals of time. Hence a comparatively rhythmical ventricular systole. Again, just as a relatively uniform amount of blood is poured into the ventricle at each auricular systole, so when the ventricle contracts waves of nearly equal volume pass into the arteries through the aorta. Of course the foregoing remarks apply exclusively to constriction uncomplicated with regurgitation, and in particular to those cases where the amount of obstruction is not so great as to keep the auricle more or less full of blood. The late lamented Dr. Hayden, whose vast experience of cardiac disease is so well known, contended that in the earlier stages of the disease "the pulse of mitral obstruction is usually quite regular, and not often above 90 in the minute, but small."<sup>a</sup>

In regurgitation, on the other hand, the amount of blood which passes into the aorta at each ventricular systole is necessarily inconstant; first, because the too often feeble and dilated auricle sends unequal quantities of blood at each contraction into the ventricle; and secondly, because the loosely flapping curtains of the mitral valve allow varying quantities of blood to pass back into the auricle at each successive ventricular systole. These remarks do not apply to those cases where compensation is perfect.

Granted, then, that in Mr. K.'s case the lesion of the mitral valve was constriction and roughening, a time came when, probably, from over-exertion in dancing and excitement portions of fibrin were detached from the curtains of the valve, and were carried through the ophthalmic artery into the ciliary arteries of the right eye. It may even be that an acute ulcerative (diphtheritic) endocarditis occurred before the embolic attack, to which it led directly, for symptoms of grave illness preceded any trouble from the eye by at least forty-eight hours. This view would be supported by the unusual intensity of the pulmonary second sound, a phenomenon which is stated to be present not only in mitral valve disease but in the early stage of pericarditis,<sup>b</sup> and perhaps of endocarditis also.

The temperature appears to have been moderate throughout in Mr. K.'s case. Certainly no hyperpyrexia was observed.

<sup>a</sup> *Diseases of the Heart and of the Aorta.* Dublin: Fannin & Co. 1875. P. 895.

<sup>b</sup> Dr. C. J. Nixon. *Dub. Journ. of Med. Science.* Vol. LXI. 1876. Page 532.

In recording the former case of panophthalmitis I quoted Trousseau's remark on the grave significance of the want of accordance between the patient's state and his feelings. His words may fitly close this brief clinical record also—"C'est le désaccord entre l'état de quiétude du malade et la gravité de son état général; il ne comprend point qu'on l'interroge avec un soin si attentif; 'il n'est pas malade' dit-il. Cette quiétude est d'un pronostic très-grave."<sup>a</sup>

#### ON THE NATURE, MODE OF PROPAGATION, PATHOLOGY, AND TREATMENT OF SCARLATINA.

In the *American Journal of the Medical Sciences* for July, 1882, Dr. John A. Octerlony publishes a valuable paper on this subject, based upon the careful study of fifty-eight cases of scarlatina occurring under his own observation. Under the discussion of the nature of the disease he advocates the theory of Eklund, of Stockholm, whose observations as to the parasitic nature of the disease he says he has repeatedly confirmed. In the urine of scarlatinous patients there is constantly present an immense number of peculiar cellular bodies which have received the name of *plax scindens*. They consist of sporoidal cells, flat, oval, or round, and either colourless or yellowish white; they have a distinct cell-wall, and a nucleus of a clear brownish colour. Sometimes the nucleus contains a very minute nucleolus. As seen floating about in the fluid examined, they often exhibit rotatory or screwing or see-saw movements. It has been further observed that these little bodies multiply first by division of the nucleolus, then the nucleus divides, lastly the cell itself undergoes division; mycelium filaments never develop from these cells, nor do they arrange themselves in beads or in the zooglœa form. These bodies are always found in the blood of scarlatinous patients, as well as in the urine, but are not known to occur in any other disease. Hence it would appear that the infectious agent of scarlatina has been found.

#### TRANSPLANTATION OF TENDON.

NICOLADONI (*Centralblatt f. Chirurgie*, p. 701, Nov. 5, 1881), in a case of pes calcaneus with paralysis of the calf muscles, "grafted" the peroneal tendons on to the stump of the tendo-Achillis, which had been divided. Healing by first intention followed, and the patient was found to have gained in walking and in plantar flexion.—*Boston Med. and Surg. Journ.*, April 20, 1882.

<sup>a</sup> Clinique Médicale. Deuxième Edition. Tome iii., p. 684.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*The Harveian Oration*, 1880. By JOHN W. OGLE, M.A., M.D., Oxon., F.R.C.P.; Consulting Physician to St. George's Hospital. London. 1881. 8vo. Pp. 209.

ALTHOUGH more than two years have elapsed since Dr. Ogle delivered this erudite oration, on June 25th, 1880, we do not hesitate to devote some space to a notice of so learned a treatise on the history of medicine; for such the author has made his "Harveian Oration." Of him the words of Seneca, which he has himself quoted, are indeed true—"Multum egerunt qui ante nos fuerunt, sed non peregerunt."

A careful study of the "Oration," and of the many and copious annotations which are contained in an appendix extending over no less than 128 of the 209 pages included in the book, excites a feeling of surprise that the author should have thought it worth his while to bestow so much trouble on its composition. Yet his time and labour have not been spent in vain, whether we regard the subject-matter of the "Oration," or turn to the notes and illustrations appended to it.

In some remarks, introductory to a historical sketch of the ancient leaders in medicine, Dr. Ogle strikes the true key-note when he says:—

"No doubt there are some whose tendencies are ever to depreciate the present, and who, *laudatores temporis acti*, see good only in times gone by. But our temptation is in an opposite direction; and engrossed and fascinated by the rapid strides and the real progress which are being made in all branches of Natural Science, and by the marvellous assistance which the practice of our art is receiving from collateral and dependent studies, we are chiefly tempted, as I think, to be too narrow and unsympathising in our retrospect, too regardless of the beneficent influence of tradition, and too neglectful of those—to whom we owe 'the debt immense of endless gratitude'—who laid the deep and solid foundation on which we have built and are yet building, and who left us, as in trust for posterity, the precious legacies of their knowledge and

experience, fully confident that they would be candidly and generously interpreted and faithfully transmitted. ‘Rich with the spoils of time,’ we are a little unmindful of the tedious paths which have been trodden by our forefathers in the attainment of our present position.

“Basking in the glorious and transcendent splendour of modern Science, and with a future before us so full of possibilities, we somewhat ungratefully forget the gloomy night and obscure dawn through which the good and true workers of times past have painfully toiled.”

Dr. Ogle proceeds to trace the gradual progress in discovery which led up to the final demonstration by “The Immortal Harvey, *decus et desiderium nostrum*,” of the circulation of the blood. He summarises in chronological order the paramount and most salient anatomical facts respecting the circulation which had been established prior to Harvey. They are—

First. The distinction between arteries and veins, as demonstrated by Galen.

Second. The non-communication between the two ventricles of the heart in man, as demonstrated by Vesalius.

Third. The true nature of the valves of the veins, as arrived at by Sylvius, St. Estienne, Fabricius, and others.

Fourth. The pulmonary or smaller circulation, as determined by Servetus.

It is shown (page 23) that the ulterior demonstration by Harvey of the circular movement of the blood rests, as Daremberg points out, on the following three arguments:—

“In the *first* place, the blood arrives under the impulsion of the heart in such quantity and in so continuous a manner from the vena cava into the arteries that it is impossible it can be furnished by the food, and in such a manner that it should pass as a whole in a short time from the veins into the arteries. In the *second* place, the blood, constantly and uniformly propelled by the arteries into the limbs and other parts, enters them in much greater quantity than is necessary for nutrition. *Finally*, from each limb the veins are constantly returning the blood to the heart, proving that the arteries receive nothing from the veins, but that, on the contrary, the veins receive blood from the arteries.”

A full and interesting account of Harvey’s knowledge of practical medicine follows. His management of an attack of gout will scarcely commend itself at the present day:—

“Thus,” says Dr. Ogle, “he states that in attacks of gout (from which he eventually died) he was in the habit of applying *cold water* to the

affected limb. 'He would then sitt,' we are told, 'with his legges bare, tho' it were frost, on the leads of Cockaine House, putt them into a payle of water till he was almost dead with cold, and betake himself to his stone and so't was gone.' When he could not sleep he would 'rise from his bed and walk about his chamber in his shirt, till he was pretty cool, and then return to his bed and sleep very comfortably.' Again, in his fatal illness from the effects of gout, when aged—seventy-nine; '*annorum et famæ satur*'—he found on the day of his death that he had lost the power of utterance, that in the language of the vulgar he had the 'dead palsy' in his tongue. He did not lose his faculties; but knowing that his end was approaching, and having made disposition of certain of his effects, he made signs to Sambroke, his apothecary, 'to let him blood in the tongue.' He died in the evening, 'like ripe fruit seasonably gathered,' 'the palsy,' as Aubrey has it, 'giving him an easy passport.'"

The mention of Harvey's investigations in experimental physiology leads the author to state and to refute, in the most able and conclusive manner, the assertions to which anti-vivisectionists seem to him chiefly to confine themselves. They are these:—

"First. That man has no *right* to use animals for purposes of scientific research, or to put them to suffering in order to save himself pain, or to acquire knowledge which may be used for his benefit.

"Second. They assert that *no valuable knowledge* has been gained by experiments on animals, and that those who have added the most to our stock of information have not practised vivisection. They confidently assert this with respect to Harvey.

"Third. They assert that vivisection (or any experiments on living animals) is so *demoralising* in its tendency that such practices should in every way be discountenanced, and should be entirely forbidden under *any* circumstances whatever."

In this part of the "Oration" Dr. Ogle frequently refers in laudatory terms to Dr. Robert M'Donnell's address to the Surgical Society of Ireland, November 23, 1877, entitled: "What has Experimental Physiology done for the Advancement of the Practice of Surgery?"

An incidental allusion to Harvey's sojourn at Oxford affords Dr. Ogle an opportunity of dealing some unsparing blows at the originators of the expression the "Lost School of Medicine" at Oxford. He says (pages 60 and 61): "The University has laid down that the principal service it can render to the medical profession and to biological study is to provide every facility for scientific education,



and to *prepare men in the best way through this channel for the clinical schools of the metropolis*, and though much has yet to be done, what has been done is far beyond expectation. The interest in medicine in Oxford has never, as far as is known, been equal to what it now is already."

At the risk of quoting too profusely from the "Oration," we cannot forbear to give at length the paragraphs in which the author embodies his views on the doctrine of evolution. He says:—

"As regards the doctrines of evolution, selection, survival of the fittest, aptitudes, inheritance, and adaptation, &c.—problems and speculative generalisations widely and deeply affecting all physical science at the present time, and of which, as biologists and students of the '*magnalia Naturæ*,' and of man in Nature, we must take note, and which we cannot afford to evade or escape from—I for one would agree with the Right Hon. Mr. Justice Fry, who forcibly observes that 'no new difficulty whatever is introduced by Mr. Darwin's demand—there is something to rejoice at in the extension to the lower animals of the realms of morality and religion;' and again also with Professor Asa Gray, when he remarks:—'We are sharers not only of animal but of vegetable life, sharers with the highest brute animals in common instincts and feelings and affections. It seems to me that there is a sort of meanness in the wish to ignore the tie. I fancy that human beings may be more humane when they realise that, as their dependent associates live a life in which man has a share, so they have rights which man is bound to respect.' As Dryden has it:—

" 'From harmony, from heavenly harmony,  
This universal frame began,  
From harmony to harmony,  
Through all the 'compass of the notes, it ran,  
The diapason closing full in man.'

"I can see no difficulty in considering simply organised protoplasm or slimy bathybius (if such a substance really exist, which appears doubtful) as the physical basis of life, or in looking upon the living structure in plants and animals as the same. The hypothesis of natural selection, first set forth by Wells and then developed by Wallace and Darwin, is, at any rate, a most probable and very workable one, and may account for the numberless varieties which we observe, species being evolved from species.

"But then it must be held that this process and progression have been from the first as much foreseen and arranged by a Power of infinite prescience and wisdom as is the progress in the growth of the heart of the human foetus through the cardiac types of the various series of animal life to that of man, the most consummate of creatures, to use an

expression of Harvey, 'the beauty of the world! the paragon of animals!' Quite as much self-existent intelligence is implied under the supposition of gradual evolution as if each orderly and progressively ascending step or link in the chain of development and of growth were the result of incessant immediate creative acts. There is, in reality, no more dethronement or ignoring of Divine Sovereignty in the one case than in the other—though irreverence and agnosticism, so termed, may use the argument as a tool for their own purposes. A Divine plan and operance, the result of 'Will,' in Nature and in Man, exists in either case. As Sir Edmund Beckett has tersely put it, 'The first living thing of any kind, and the first egg or other seed that ever grew, wants accounting for just as much as the first tiger's claw, or elephant, or man.' The difficulties in the one case, if such there be, exist in the other, only at a stage anterior or farther back. And Asa Gray remarks, 'The throwing back of design ever so in time does not harm it, nor deprive it of its ever-present and ever-efficient character.' As the late and much revered Canon Mozley observed, quoted by the same author, 'If design has once operated in *rerum natura*, as in the production of a first life-germ, how can it stop operating and undesigned formation succeed it? It cannot; and intention having once existed, the test of the amount of that intention is not the commencement, but the end; not the first low organism, but the climax and consummation of the whole.' I do not propose to occupy further time with this subject—one, however, which as physiologists and physicians we cannot in these days of intellectual activity and proud pretension set aside or slight."

Dr. Ogle gives some interesting anecdotes of Harvey—among others he tells us how at the battle of Edgehill, October 23, 1642, the philosopher withdrew along with the Prince of Wales, aged twelve, and the Duke of York, aged nine, who had been, no doubt, for a time committed to his care, under a hedge, and took out of his pocket a book, which he began to read. He had not read very long when a bullet from a great gun fell and grazed the ground near the party, which made Harvey resume his station. This incident was depicted by W. F. Yeames, Esq., R.A., in a picture exhibited at the Royal Academy in 1871. A photograph taken from this picture forms the frontispiece of the present volume. The "Oration" concludes with the customary commemoration, enjoined by Harvey himself, of all the benefactors of the Royal College of Physicians.

In the Appendix many of the "Adversaria" are instructive and curious, but under the heading "Curæ Posteriores" at the very end of the book two notes bear off the palm for interest and

quaintness—one is on “Blood-drinking;” the other, on “Our former Therapeutique Way,” contains a MS. account of the death of Charles II. and of Queen Anne.

There is little to criticise in Dr. Ogle’s “Oration.” We remark, however, that when he quotes Scripture, as he frequently does, he uses the Latin version of the Vulgate. This, we think, is a pity. The original Greek of the New Testament and the Hebrew of the Old Testament with an English translation, whether that of the Authorised Version or some other, would be preferable. The strange word “eternised” on page 27 appears to be quoted from Harvey himself, as it is printed between inverted commas. At page 79, in a footnote, Dr. Ogle countenances the derivation of laudanum from “laudandum,” but is not the etymology of the word manifestly *λήδανον*, or *λάδανον*? This literally means the gum or exudation of the *λῆδον*, *Cistus creticus* (Dioscorides), but might very easily come to be applied to any exudation like opium.

It only remains for us to congratulate the author on the glamour with which he has invested an almost threadbare theme—the Life and Work of William Harvey, and on the valuable contribution he has made to the classical literature of Medicine, in publishing so learned an “Oration.”

*Lectures on the Diseases of the Nervous System.* Delivered by J. M. CHARCOT at La Salpêtrière. Second Series. Translated and edited by G. SIGERSON, M.D. The New Sydenham Society. London. 1881. Pp. 399.

THIS volume contains twenty Lectures, many of which appear to have been republished from the well-known French journals, *Le Progrès Médical*, *Mouvement Médical*, &c., without having undergone subsequent revision. Indeed the date on the title-page is misleading to this extent, that none of the Lectures seem to be of more recent date than six or seven years ago, while some were delivered so far back as 1870. Hence, although the book well repays perusal, it will be seen that the present state of science cannot always be fully represented in its pages, and much that is in it will not be new to anyone who is moderately acquainted with the recent literature of nervous diseases. Professor Charcot writes with much grace of style, and he has the happy gift of presenting in a lucid and attractive manner laborious and minute researches which have been carried out by himself or others. The Lectures

are distributed under Four Parts. Part I. treats of the anomalies of locomotor ataxia, prefaced by an anatomical introduction, and a discussion upon "retrograde action" in spinal diseases; and Part II. deals with the pathology of slow compression of the spinal cord. In Part III. are discussed spinal amyotrophies (infantile spinal paralysis, adult spinal paralysis, spinal progressive muscular atrophy, amyotrophic lateral sclerosis, &c.); and the last six Lectures are devoted to some miscellaneous affections—*e.g.*, spasmodic tabes dorsalis, urinary paraplegias, Menière's vertigo, post hemiplegic chorea, epilepsy of syphilitic origin.

Accompanying this volume are a number of plates and diagrams, with explanatory descriptions, which illustrate not only this but also the first series of Professor Charcot's Lectures on Nervous Diseases, already published by the New Sydenham Society. The translation is fairly done, and is, we think, an advance upon the English rendering of the first series of Lectures.

*The New Handbook of Dosimetric Therapeutics.* By Dr. A. BURGGRAEVE. Translated from the French, and edited, by H. A. ALLBUTT. London: David Bogue. 1882. Pp. 208.

THIS is a book which it is scarcely possible to take seriously. Dr. Burggraeve fancies himself a great reformer, destined to revolutionise medical practice, and he has found in Mr. H. A. Allbutt a sympathising and admiring translator. So far as we can make out, the leading feature of Dr. Burggraeve's system, which entertains a sublime disregard for pathology, consists in the symptomatic treatment of diseases by the use of granules containing alkaloids and "those metallic salts and metalloids whose pharmaco-dynamic action can be put in evidence by direct experiment."

In acute diseases, Dosimetry, as Mr. Allbutt tells us, "never waits for the symptoms to be developed in order to establish the diagnosis, but it acts on the principle that every acute affection should be jugulated at once before the anatomo-pathologic lesions appear, which are certain to arise and complicate the case if the fatal mistake is made of waiting for the diagnosis." The most sensible paragraph in the book is this:—"No person can treat himself or his friends in cases of genuine illness. It is not wise to attempt it, especially with the more powerful granules."

*Treatise on Therapeutics.* Translated by D. F. LINCOLN, M.D., from the French of Drs. A. TROUSSEAU and H. PIDOUX. Ninth Edition, revised and enlarged, with the assistance of Professor CONSTANTINE PAUL. 3 Vols. London: Sampson Low, Marston, Searle, and Revington. 1881.

THE first edition of this medical classic was published in 1836–38, and it perhaps stands alone among treatises on therapeutics in the length of time during which it has sustained its reputation. The present translation is issued as one of the series of Low's Library of Standard Medical Authors. In order to save space, nearly 1,000 pages, out of the original 2,196 pages, have been omitted in the translation—viz., the pharmaceutical details, descriptions of the physiological action of drugs, the historical introduction, and a number of special articles on therapeutics. We greatly doubt the wisdom or propriety of this course, and look on it as little less than a literary sacrilege to mutilate the work of two great teachers, and seriously curtail its proportions, merely to suit the publishers' self-imposed limits. At the present juncture it appears a specially unfortunate step to leave out details as to the physiological action of drugs, while 122 pages are devoted to elaborately arguing the question of antiphlogistic treatment.

The most original and useful portions of the treatise are the general discussions upon fundamental principles, and on the therapeutic groups of remedies. These essays upon general therapeutics are brilliantly written, and contain much of the learned authors' views on medical pathology. They are always suggestive and interesting, if not quite satisfying, and they may be consulted with advantage, as presenting the subject from a different point of view to that taken by English and German authors. We cannot praise the translation, which is inelegant and clumsy; and it is repelling to the reader to meet with such words as *hectisis*, *morbicide*, *imprescriptible convention*, &c., &c.

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*Medical and Surgical Report of the Tyrone County Infirmary for the Year 1881. Omagh..*

WE have in former years noticed the Annual Reports of the Tyrone County Infirmary and of other similar institutions with approval. If any proof were wanting of the good work done in provincial hospitals, this and like Reports would amply supply it.

Its ten pages give a modest but satisfactory summary of twelve months' results—466 patients were admitted, 87 operations were performed, and but one death ensued after operation (strangulated femoral hernia of eleven days' standing). In the list we observe there were 2 amputations of the thigh, 6 removals of the breast, besides perineal section, lithotomy, and 21 removals of tumours. On such brilliant results Dr. Thompson, the Surgeon to the Infirmary, must be warmly congratulated. The cost per occupied bed was only £34 8s. 11d. If all county infirmaries were as energetically or as successfully managed, the influx of surgical cases to our metropolitan hospitals from the country would be much less than it is.

*An Atlas of Illustrations of Pathology. Fasciculus IV. Diseases of the Liver, including one figure of Spleen (Plates XVII. to XXII.); with Pathological Summary.* By Dr. GOODHART. London: the New Sydenham Society. 1882. H. K. Lewis.

THE morbid conditions figured are:—cirrhosis of the liver (several drawings); brown atrophy; fatty liver, from phosphorus poisoning; tubercular liver; cystic disease of liver; and lymphadenoma of spleen. The illustrations are fairly good, and three plates are devoted to the pathological histology of the different affections described.

Dr. Goodhart's *résumé* of our knowledge of hepatic diseases is carefully done, and will, no doubt, be acceptable to the wide circle of the supporters of the New Sydenham Society.

*Human Parasites.* By T. SPENCER COBBOLD, M.D., F.R.S., F.L.S. London: Longmans, Green, & Co. 1882. 8vo. Pp. 88.

WITHIN the narrow limits of this small octavo volume of 88 pages Dr. Cobbold has succeeded in condensing a wonderful amount of information relating to all the known species of entozoa and ectozoa which are found infesting man. The consideration of the microphytic, confervoid, and simple sarcodic organisms is, however, excluded, and, in our opinion, wisely, for, as the author points out, "the literature of the subject of microphytes" alone "has of late increased to such an extent that it would require several pages for the mere enumeration of published memoirs."

Anything on the subject of helminthology from the pen of Dr. Cobbold carries with it the weight of authority, and therefore the task of reviewing the present "Manual" is an easy one. The book contains, however, a wider view of the "Parasites of Man" than is embraced in the term helminthology. All creatures which derive sustenance from the host, although the duration of their visits may be almost momentary, are grouped as parasites. Fleas, flies, gnats, and mosquitoes afford examples of that "partial parasitism" which, in the author's opinion, justifies insertion of a notice of these creatures in the book.

Dr. Cobbold adopts the following classification:—

- I. *Trematoda*; flukes.
- II. *Cestoda*; tapeworms.
- III. *Nematoda*; round worms and threadworms.
- IV. *Acanthocephala*; thorn-headed worms.
- V. *Suctoria*; leeches.
- VI. *Arachnida (parasitica)*; mites.
- VII. *Insecta (parasitica)*; insects.

The account of each species includes the mention of its accepted scientific name, synonymy, size, habitat, larva, intermediate host, and of the most noteworthy experiments connected with it, together with remarks and an allusion to the literature of the subject.

The little manual abounds with information of a novel and sometimes of a startling description. Under the heading "*Dracunculus Medinensis*" we are told that the guinea worm disease "corresponds with the Israelitish endemic affection described by Moses as due to fiery serpents"—a statement which leads the author to speak somewhat lightly, if not irreverently, of the Biblical account of the plague of fiery serpents. He says:—"Whatever good the *theosophical* remedies recommended and enforced by Moses *may have* accomplished for the human victims suffering from the attacks of 'fiery serpents,' or Dracunculi, it is to be feared that *no similar remedial measures of the mystical kind* could be rendered available in the case of animals bitten by parasites that have been regarded as renal serpents. It is fortunate, indeed, for man that the great kidney worm (*Eustrongylus gigas*) has only once been detected in the human body. If this formidable entozoon, capable of attaining a length of three feet, were as common in man as it is in certain animals, no doubt the *superstitious people of southern climes would readily invoke clerical aid in view of obtaining miraculous cures.*" The Italics are ours.



Speaking of the threadworm (*Oxyuris vermicularis*), Dr. Cobbold tells a horrible story of a gentleman who, tortured by this common worm, revenged himself by crushing some of the living parasites between his teeth. Thus unwittingly he prepared a far more terrible and prolonged revenge for himself, for myriads of eggs, set free from the severed bodies of the female worms, were swallowed by him, and hatched within his intestinal tract. Dr. Cobbold very properly points out that the headquarters of these worms are the cæcum and upper part of the colon—a fact which renders their expulsion by means of enemata injected into the rectum a matter of some doubt.

A very full description is given of the *Filaria Bancrofti*, the new parasite found in human blood.

Mention of another nematode—*Leptodera teres* (Schneider)—affords the author an opportunity of dealing some heavy blows at the Local Government Board (for England) and their Inspector, Mr. W. H. Power, for describing an outbreak of fever on board the Reformatory School ship "Cornwall," in the year 1880, as "Trichinosis." "Of course," observes Dr. Cobbold, "it proved to be nothing of the kind."

In concluding this notice, as Irish journalists we take a natural pride at the handsome way in which Dr. Cobbold mentions the services rendered to science by "the Dublin helminthologist, Bellingham," whose investigations, by-the-by, were published in *The Dublin Journal of Medical Science* in the years 1838 and 1839.

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*The President's Address at the Annual Meeting of the North of Ireland Branch of the British Medical Association.* Pp. 20.

DR. THOMPSON, of Omagh, the President of our sister branch of the British Medical Association, has, in his Belfast Address, touched upon several of the burning questions of medicine. Passing over an eloquent epitome of the history of medical research, Dr. Thompson discusses, with the power of a man who holds strong opinions, the position, social and professional, which medical men have made for themselves. He is exceedingly outspoken in showing how within our own ranks are influences which tend to lower our prestige in the eyes of the public. He advocates a spirit of union among practitioners, and a higher tone amongst our licensing bodies, so that the very questionable modes of gaining notoriety we occasionally see may be not merely discontinued, but put an end to.

## PART III.

### HALF-YEARLY REPORTS.

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#### REPORT ON MEDICAL JURISPRUDENCE.

By STEWART WOODHOUSE, M.A., M.D., Assistant-Physician to the Richmond, Whitworth, and Hardwicke Hospitals.

##### INDUCTION OF ANÆSTHESIA.

FROM a communication read by Dr. Johnston to the Medico-Legal Society of New York on Anæsthetics, the following items have been selected, as being of importance from a jurist's point of view :—

1. The induction of anæsthesia stimulates the sexual function; the ano-genital region is the last to give up its sensitiveness. Hence, a charge of assault during anæsthesia made by a female should be received just as if it were made by an insane person—that is, it should be received and investigated, but the rule *corpus delicti aliunde* should be insisted upon, and, unless some other testimony be forthcoming, the informant should be considered as under a delusion.

2. In operations on the ano-genital regions, and in the avulsion of the toe-nail, complete loss of sensitiveness in these parts should not be allowed, or, if allowed, should be superintended by men who know the danger of perfect anæsthesia.

3. Chloroform cannot be given to persons who are asleep without waking them by anyone who is not an expert. Even experts fail more often than they succeed in chloroforming adults in their sleep.

##### THE SIGNIFICANCE OF THE PTOMAINES IN TOXICOLOGICAL CHEMISTRY.

Dr. Thomas Stevenson has just epitomised a valuable article by Th. Husemann in the *Archiv der Pharm.* As ptomaines form frequently in bodies undergoing slow decomposition, they should be often observable in the bodies of those who have died from arsenical

poisoning. In 1878 Selmi reported two cases in which poisonous crystalline ptomaines were found in exhumed bodies that had died from arsenic. These two ptomaines were not chemically quite similar; but in neither of them could arsenic be found. The same observer, however, afterwards discovered organic arsenical bases (arsines) in the stomach of a pig that had been preserved in a solution of arsenic. One of these bases was volatile—contained arsenic—and was highly poisonous, resembling strychnine in its physiological action. A non-volatile base was also obtained, having an alkaline reaction and a cadaverous odour. It contained arsenic. When placed on the tongue it caused tingling, followed by loss of sensibility. It was poisonous to frogs, but its action differed from that of the volatile arsine, and was somewhat similar to that observed as the ordinary action of the poisonous ptomaines. Torpor, paralysis, and stoppage of the heart in systole were the most prominent symptoms. Dr. Stevenson seems to agree with Husemann in thinking that, if a volatile arsine is produced by the contact of arsenious acid and albuminous substances, the poisoning by arsenical wall-paper may be principally due to the formation of a volatile arsine, the size and the moisture in the air supplying the necessary agents. He has not, however, noticed that arsenical wall-paper ever caused symptoms resembling strychnine intoxication. He is also inclined to think that the classical Italian poisoners of the seventeenth and eighteenth centuries knew how to make arsenic more potent by making albuminous compounds. The *Acquetta di Perugia* which tradition asserts to have been prepared by rubbing white arsenic into the flesh of a pig and collecting the liquid that dripped from the flesh, was thought to be much more efficacious than a simple arsenical solution.

#### POISONING BY BITTER ALMONDS.

The Resident Medical Officer of Charing Cross Hospital has reported a case of poisoning by these favourite flavouring ingredients. A man who had fallen down in a fit was brought to hospital insensible and collapsed, cyanotic, with gasping breath; pulse hardly perceptible. When the stomach pump was used a pint of fluid was removed, containing a quantity of small white particles, smelling strongly of hydrocyanic acid. Galvanism and other stimulants were applied, but he did not recover consciousness for about twelve hours. He made a good recovery. His own account was that he had eaten nothing during the day, but that

in the evening he took two handfuls of bitter almonds and a pint of beer; he returned to his work, and felt quite well until he fell down, after which he remembered nothing more.

Very few cases of poisoning by bitter almonds are on record. Taylor mentions only two, neither of which proved fatal, but the symptoms were by no means so severe as in this instance. Though the symptoms are due to prussic acid which was found in the matter withdrawn from the stomach, the almonds themselves, it is well known, do not contain the poison ready formed. The acid is produced by the mutual action of two of the constituents of the almond, emulsine and amygdaline, in the presence of water at a certain temperature, as the saliva of the mouth. A point of medico-legal interest is that there was a considerable interval of consciousness between the ingestion of the almonds and the first development of the symptoms, which in the case of direct prussic acid poisoning appear almost immediately.

#### PHOSPHORUS POISONING.

Dr. Danillo (*Archives de Méd. Gén.*) calls attention to the nervous phenomena in poisoning by this metalloid. He has found that large doses cause a diffuse central myelitis with extravasation in the neuroglia and pigmentation of the nerve cells, while small doses produce scattered particles of myelitis, that in life bring about peculiar nervous disturbances. He thinks that in cases of supposed poisoning by this means an examination of the cord is quite as important as that of the liver.

#### POISONING BY ACONITE.

Dr. Reichert has collected and reported in the *Philadelphia Medical Times* 41 cases of poisoning by aconite. Of these 28 recovered and 13 died. Out of the 41 the symptoms appeared immediately in 7, and within an hour in 15; the average period was  $3\frac{1}{2}$  hours. The subjective nervous phenomena in some were peculiar. Some complained of jactitation, two of a feeling as if their eyes were dropping out, one of a swollen head, one of his head in a vice, three or four of a heaviness of the feet and legs like the intoxication of haschish. The effect on respiration was unequal; with two or three it was reduced to 6 per minute and the pulse to 20.

The treatment adopted in most instances was the speedy evacuation of the stomach, the administration of stimulants, and friction.

In 4 cases in which opium was tried all recovered, as much as  $5\frac{1}{2}$  drachms of laudanum was given in 4 hours without producing narcotism. Two were treated with digitalis, 1 died, the other, who had swallowed 1 ounce of Fleming's tincture, recovered. Amyl nitrite gave the most marked and immediate relief.

Dr. Reichert, in an appendix to his own paper, sums up 53 cases recorded by Tucker. Of these 28 recovered and 25 died. A tingling or burning sensation was complained of in 26, and vomiting in 28. Eleven necropsies were obtained; in 7 of these the lungs were found congested, in 8 the vessels of the brain or pia mater were engorged, while the gastric mucous membrane was very red or dark coloured in 9.

#### POISONING BY FAMILIAR REMEDIES.

*Chloral*.—An inquest held about a month ago in England, on a man who committed suicide by taking chloral, reveals the dangerous facility with which poisonous drugs may be procured by the public. The victim, who had been in a "low state of mind," called at a chemist's shop, and asked for an ounce of hydrate of chloral. The chemist, "not being satisfied," to use his own expression, gave the deceased *only half an ounce*—a quantity which, on his cross-examination, he admitted that he remembered would be sufficient to have caused his death three times. A writer in the *British Medical Journal* (July 15th) mentions that when travelling on the Continent last year he met a lady who had taken with her from England a dose for every night that she intended to be away. With the view of meeting such cases, he suggests that all prescriptions of soporifics should plainly set forth whether the doses or quantities should be repeated, and how often. If repeated, the dispenser should be bound to make an entry to that effect on the face of the prescription, so that, presented elsewhere, if the full quantity have been dispensed, the order or prescription would be null and void.

*Chlorate of Potassium*.—Dr. Hofmeier reports that a lady suffering from angina tonsillaris, in thirty-six hours took into her mouth, and for the most part swallowed, forty grams of chlorate of potassium. The symptoms were—rapid breathing, frequent pulse, high temperature, deep dark-brown icterus, a cloudy urine, which, on being filtered, furnished a dark filtrate. The urine contained disintegrated blood corpuscles, and a yellow or brownish sediment. The spectrum of methæmoglobin in the urine was distinct. Blood

drawn by puncture was dark, but histologically normal. Death from asphyxia followed in twenty-six hours. *Post mortem*.—Both kidneys were enlarged, and of a brownish-red colour, and the cut surfaces of the organ were brown. The ureters were filled with reddish-brown cylinders, which consisted of fragments of blood corpuscles. The marrow of the bones (thigh) and the spleen also were reddish-brown. If fresh blood be treated with a solution of chlorate of potassium, the blood becomes, after a few hours, dark-brown, syrupy, and finally jelly-like. The corpuscles become pale and crenated, and congregate in irregular lumps, and can be preserved for weeks without decomposition. By feeding dogs on chlorate of potassium the same change in the blood occurs. The hæmoglobin is decomposed and dissolved from the corpuscles. Secondly the lungs, spleen, and kidneys are affected. The ureters are filled with the cylinders already referred to. The urine even during life contains large quantities of brown cylinders and granules. The entire process seems to be identical with that of oxidation of hæmoglobin, as discovered by Hoppe-Seyler.

*Boracic Acid*.—Dr. James Anderson, in the *London Medical Record*, has collated two cases of poisoning by boracic acid, reported by Dr. Molodenkou, of Moscow. In the first case, after the operation of thoracentesis had been performed upon a woman, aged twenty-five, the pleural cavity was washed out with a 5 per cent. solution of boracic acid. Very shortly afterwards vomiting set in, with a very weak pulse; an erythematous eruption appeared on the back, and extended down as far as the thighs. On the third day she died. She retained consciousness up to the last, but vision was disturbed. The second case was a boy, aged sixteen, who had a lumbar abscess, which was opened. It was washed out also with a 5 per cent. solution, but in half an hour afterwards there was severe vomiting, and the pulse became gradually feebler till death supervened. A few extravasations were found on the pericardium. Death seemed to have resulted from paralysis of the heart.

*Carbolic Acid*.—In the *Nordiskt medicinskt Arkiv* of Oct., 1881, two misadventures are detailed showing the danger of carbolic acid applications in the case of very young children. One of them, described by Dr. J. A. Malmgren, is that of a child, aged five and a half months, who had an eruption, followed by an ulcer, in his groin, which was ordered to be dressed with carbolised oil (8 per cent.). The next day he had vomiting, which was repeated

during the night. The urine was described by the mother as being "very dark and foul," and the child was very sleepy. The carbolised oil was removed on the third day; the urine was of a deep coffee-colour, and the child slept almost constantly; the pupils were somewhat contracted; the vomiting continued. On the fourth day the patient's condition was about the same, but in the evening the somnolence had ceased, the vomiting was less frequent, and the urine had become much clearer. The child recovered; but the urine retained a dark colour for a fortnight. In the second case, related by Dr. Nordenström, a child one year old had a large fluctuating swelling in the left parotid and sub-maxillary regions; it was opened, and a large quantity of pus discharged. The part was dressed with cotton-wool saturated with carbolised oil (1 in 10), over which was placed dry cotton-wool and a bandage. The dressing was changed morning and evening. About an hour after the application of the dressing the child had vomiting, which continued through the following day. The urine was of a dark-green colour, and the evacuations were loose. On the third day the condition was about the same, and the breathing was impeded. A mixture of equal parts of camphorated oil and olive oil was now substituted for the carbolised oil; but the child died the next morning.—*Brit. Med. Jour.*

*Iodoform.*—Two deaths from iodoform have been lately reported from Germany. The drug had been in both cases used recklessly, as much as 700 grains having been crammed into a joint that had been opened. There is a marked difference in the susceptibility of individuals to iodoform, and in some cases it seems to accumulate, and then suddenly produce toxic effects. Prostration, feeble pulse, collapse, are the most frequent symptoms; there may or may not be an increase of temperature, but consciousness is retained.

*Tartar Emetic.*—Schelle reports a death of a man having occurred within six hours after a dose of one gram (15·4 grains) of tartarised antimony had been given to him as an emetic. The mucous membrane of the stomach was covered with the characteristic pustules.

#### DURATION OF PREGNANCY.

Dr. Helen Idelson found that, of 4,370 patients in Prof. Horwitz's *Obstetrical Clinic*, only 488 could furnish the requisite data for the determination of this question—viz., the exact date of the last day of the last menstruation, and the maturity of the



foetus. After showing the great differences which prevail in various animals, and the great differences between the maximum and minimum admitted by authors in woman, she states as the result of her own researches that the average period was 278·8 days—viz., a minimum of 226 and a maximum of 328, or a difference of 102 days. She sums up the results of her investigations as follows:—1. The duration of pregnancy amounts to 278·8 days, or nearly forty weeks. 2. The sex of the infant influences the duration, this being longer in female infants. 3. The heavier the child, the longer is the duration.(?) 4. The duration is longer in multiparæ than in primiparæ. 5. The younger the woman, the longer is the duration. 6. The duration is longer in married than in unmarried women. 7. The first movements of the child are felt, on an average, on the 135th day, but later in primiparæ than in multiparæ.—*Petersburgh med. Woch.*

#### PROLONGED GESTATION.

In the May number of the *New York Medical Journal and Obstetrical Review*, Dr. L. A. Rodenstein, of New York, reports four cases of prolonged gestation, and remarks that the number of cases cited upon undoubted authority by every writer on obstetrics, and the cases constantly reported as occurring under the personal observation of general practitioners, go to show that prolonged gestation is not a myth, and especially that it should not be explained away by questioning the virtue of the mother. How long the duration of the period of gestation can extend beyond the normal time is not yet determined, perhaps cannot be determined, but that it may extend over two months is apparently settled. The same principle is involved, whether the uterus tolerates the presence of the child three days or one hundred and forty-five days (Professor Meig's Report) after the natural term of gestation has expired. He believes that, after the uterus has performed its physiological function of gestation for the natural term, it rests from the work of gestation proper. Why does it not, then, exercise the function of expulsion? That question he does not attempt to answer, but believes that after gestation has performed its proper and peculiar work the growth of the child is complete, and it thereafter lies dormant in the womb. Otherwise the child would grow to huge size, and its delivery in the natural way would be impossible; whereas in the cases cited the size of the child at the expiration of the period of prolonged gestation was normal.

## PROLONGED INTERVAL BETWEEN THE BIRTHS OF TWINS.

Dr. Baranski relates the following remarkable occurrence. A woman gave birth to a male child a short time before full term—the placenta came away. She speedily recovered and resumed work as an agricultural labourer. At the end of seventeen days, however, she was surprised by an escape of amniotic fluid; there were no pains, but on examination an arm was found presenting, and in a short time a child was born; the placenta followed in a few minutes.

## MATERNAL IMPRESSIONS.

Dr. Wall, in a communication to the *New York Medical Record*, March 26th, states that he has had under his notice a male child, six months old, who was born without eyeballs. The most careful examination failed to detect even their rudimentary existence. The eyelids are small, and do not seem to have grown since birth, are somewhat retracted into the empty sockets, and can only be separated to a very limited extent. The child is well grown, and seems in all other respects quite right. When it cries from pain it sheds tears, showing the presence of the lachrymal glands. The mother states that about a month and a half after conception she was frightened on seeing a negro who had lost an eye, the lids of which were closed and retracted into the socket.

A Westphalian physician, Dr. Ruer, has published a very curious fact. He has for a long time been medical officer of some mines, into which the miners descend on Monday mornings and return on Saturday nights. Sunday is spent in drunken debauch, and on that night they have generally coitus with their wives. Rarely does a child of these miners grow up healthy. The frightful mortality amongst them is not attributable to the absence of hygiene, &c., but convulsions carry them off.

## RESULTS OF MARRIAGES WITH IDIOTS.

Dr. Berkham, in the *Zeit. für Psych.*, makes some interesting observations as to the capabilities of microcephalic and other idiots to propagate their species. A semi-idiotic man has been married for some years to a healthy woman; there is no family. A healthy man, married to an idiotic wife, has had three children by her; two of them are idiots. These cases support Vogt's view—that while female idiots may bear children, the male are very frequently

incapable of begetting them. Marriages are very rare between male half-cretins and healthy women, but are not uncommon between healthy men and semi-cretinous females who may happen to own a little property. The author has never seen the progeny of these marriages arrive at maturity; if not still-born, the children usually die during childhood.

#### INSANITY IN A CHILD.

The *Jour. de Méd. et de Chirurg. Prat.* relates the following rare manifestation of insanity in early childhood:—Born with extraordinary conditions of heredity, the child, suckled by its mother, was, at the age of three, very impressionable, subject to violent fits of anger, striking its head against the walls. At the age of four it presented the characteristics of true insanity with melancholia and suicidal tendencies. There were hallucinations of sight, hearing and taste. The child is small, lean and little developed. It calmly describes the hallucinations under which it suffers, and all the visions seen, whose object is always to make the child kill itself. It cannot help crying because it has so many worries which it cannot explain; these troubles giving rise to a desire to commit suicide.

M. Magnan regards such precocious and complete insanity as remarkable, and attributes its completeness to heredity.

#### A DIRK IN THE BRAIN WITH NO UNTOWARD SYMPTOMS.

The *Paris Médical* is responsible for the following:—A man who had quarrelled with his wife took a small dirk almost 4 inches long, placed it vertically on the top of his head, and by the aid of a hammer drove it in up to the hilt. This done he felt nothing unusual. He had all his intelligence and the full use of his senses, and motion was not in the least impaired.

Embarrassed at having so badly placed the dirk, he called in a physician who tried to withdraw the knife, but was unable to do so. M. Dubrisay was then summoned, and the two physicians fared no better. The patient was lifted, the weight being borne by the dirk, which did not come out. The patient was then taken to a neighbouring shop, where by dint of great labour and appliances the instrument was, after great trouble, extracted. The patient immediately arose, walked, spoke, and conducted M. Dubrisay to his vehicle and thanked him.

The blade of the instrument was somewhat bent near the point.

It had encountered some hard body, the occipital fossa. Fearing meningitis, the patient was taken to an hospital, but left in eight days without ever having inflammatory or paretic symptoms.

As an injury to the brain it is a very curious case. As far as can be guessed, the 4 inches of blade penetrated near the posterior edge of the parietal near the median line. Supposing the blade to have passed between the hemispheres, without inflicting injury upon them, it must have traversed the tentorium cerebelli behind the protuberance, traversed the cerebellar peduncle and the cerebellum near the bulb, in order to bend itself in the occipital fossa, and yet it seems not to have occasioned disturbances of motion or sensation along the tract we have supposed it to follow.

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#### TREATMENT OF CHRONIC RINGWORM.

REASONING from the observations of Koch, that bacillus spores lived and developed even after being placed in carbolic oil, Mr. Malcolm Morris (*Brit. Med. Jour.*, June 17) argues that neither oil nor fat of any kind should be used when the full action of an antiseptic is required. He believes that he has observed cases in which the spores of ringworm have been carried in the discharge from one part of the head to a previously healthy part. Therefore, if fat of any kind from without protects the spores, as Koch asserts, the natural fat or sebaceous matter must have, he believes, a similar effect. For this reason he tries to remove the fat by means of ether, and abstains from using ointments or oil in the treatment. He washes, or more strictly dabs, the patch each morning with a lotion composed of ether, five drachms; rectified spirit of wine, two drachms and a half; and thymol, half a drachm. During the day glycerine, with a very small trace of perchloride of mercury, is applied. In the ringworm patch we want the diseased hairs to fall out; and by producing a condition similar to *seborrhœa sicca*—that is, by making the part very dry—we can depilate by dissolving the fat, and thus loosening the hair. In this way we can remove all the broken and diseased hairs in a few days. In the subsequent number of the same journal (June 24), Dr. Cavafy mentions a somewhat similar plan of treatment which has been successful in many of his cases. It consists in forcibly rubbing into the affected parts of the scalp with a rag or stiff brush three times daily a solution of twenty grains of boracic acid in an ounce of spirit, to which a drachm of ether was added. Washing the head subsequently with plenty of soap and hot water is an essential part of the treatment.

PART IV.  
MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

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FORTY-FOURTH ANNUAL SESSION.

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JOHN A. BYRNE, M.B., President.  
WILLIAM ROE, M.D., Honorary Secretary.

*Saturday, June 17, 1882.*

J. A. BYRNE, M.B., President, in the Chair.

*Discussion on Dr. Duke's Paper on Additional Traction in Forceps Cases as an Alternative to Craniotomy.*

DR. DILL.—I shall take the liberty of making a few remarks on the subject of the paper, and also of exhibiting a few instruments. In the first place I am disposed to express a high opinion with regard to these appliances which Dr. Duke has exhibited to us for obtaining additional traction power with the forceps. I have paid considerable attention to operative midwifery, and I am bound to say that these tractors are very superior to Morgan's, which are clumsy in comparison with them. I tried Morgan's and found them so clumsy that I laid them aside. According to my experience of them the safety of the child's life is considerably endangered by the use of them. Dr. Duke's can be introduced with the forceps; Morgan's, on the other hand, must be introduced afterwards. I have here another instrument, which I have used a few times, and am very fond of—viz., Galibani's forceps. It saves the perinæum from pressure, and can be more easily applied along the line of the upper axis than Barnes's forceps, even accompanied with the tractors. I believe it to be the best instrument for the high operation. At first I was greatly in love with Simpson's long forceps. I then left it aside and adopted Barnes's. This one I now show is Tarnier's. The only objection to it is the difficulty of managing it on account of the number of screws that it has. Nevertheless, I believe it to be a most admirable instrument. With

respect to all these instruments, I am disposed to say that there is a great deal more than their mere power to be considered in estimating their efficacy. There is their mode of application; and there is also another important element. Some time ago my old friend, Dr. Mathews Duncan, assisted by a mathematician from Cambridge, who is now in Edinburgh, set themselves to measure the exact amount of power exerted by nature in expelling the child, but while they have come very near to an accurate result, I think our branch of medicine is still short in the matter; and it will be a lame affair until we shall have discovered the amount of force which we are justified in applying artificially in order to bring away the head. We all know that the muscular power of individual obstetricians varies considerably—consequently, one operator would be likely to apply much more force than another. Having regard to the present advanced state of mathematical and mechanical science, I do not see why an arrangement should not be produced which could be tested as regarded the amount of force, measured by pounds, which it applied. We should have exact calculators as to the amount of power to be applied. No doubt good training and long experience enable an accoucheur to know the exact amount of force that he should apply, but still we should have a table to guide students as to the amount of force they should apply, showing what amount would be proper for the middle and what for the higher operation. Dr. Duke has quoted a note by Dr. M'Clintock, but to my mind there is such flagrant error in the whole passage Dr. Duke has quoted, that I am disposed to take complete exception to it. It is a great error to suppose that you can apply greater force in extracting when you have hold of the feet or limbs or body than you can when you have hold of the head. I say that if we were to apply such enormous power to the feet or body as is indicated in the quotation we should do more harm than would result from the application of the same power to the head. Power applied in such a way must bear upon the neck and spinal marrow, and we know that these are much more vulnerable points than the head. You may compress the head almost to any extent; you may compress other parts, and still the child may live; but you cannot put a strong extracting power upon the neck without doing material injury, and in all probability killing the child. I have seen the skull broken, and a considerable quantity of brain substance lost, and yet the person lived, and that in the cases of both children and adults.

The PRESIDENT.—I have no doubt that a Barnes's forceps in the hands of a weak person, unaccustomed to the manipulation of such instruments, would not be as effective as in the hands of those accustomed to use it. From my experience of the forceps, I do not think we should much require such aids as have been brought under our notice. I think that Barnes's forceps gives us a great deal of power; and for my own part I never felt any necessity for additional power with that instrument. However, the

appliance brought under our notice is a very nice one, and far more effectual than Morgan's forceps. It should supersede the necessity for Tarnier's forceps, which is a very clumsy instrument. With regard to the amount of compression to be used in extracting the head, that must be left to the individual perception of the operator. I think the tendency of modern opinion is that we have hitherto failed in applying sufficient force.

The REV. DR. HAUGHTON, S.F.T.C.D.—I do not presume to put myself forward amongst practical men such as those whom I see around me, except in the sense of trying to assist by theory what they want to carry out in practice. I believe, however, that I can add something to your knowledge of the question. Before doing so I wish to remark that it appears to me that Professor Dill's admiration for the timidity of the last generation with regard to the use of the forceps is not to be commended. I prefer the man who always has a forceps in his pocket. A lady with whose case I am familiar was paralysed for three years owing to pressure on the nerves of the sacrum, which might have been obviated by the application of the forceps. The long delay of the child in the passage leads to very serious consequences to the mother; and if I had to call in an obstetrician to attend a friend again, I would not feel at all safe unless he had a forceps in his pocket for use if necessary. But that is beside the present question. What Dr. Duke has brought before us ought to be considered as the alternative of craniotomy. It is not a question between rival instruments, any one of which would do in an ordinary case where there was only a moderate amount of danger. Dr. Duke's remarkable case at Sydney-parade shows that by venturing to use a large amount of traction he saved the child's life.

My contribution to our knowledge of the subject is contained in my book on animal mechanics. Dr. Mathews Duncan called the attention of the profession to the importance of determining the physical constants of natural labour so far as the action of the uterine muscles is concerned. I followed this up by calculations based on the weight and force of the uterine muscles and the convexity of the womb, which have in the most complete manner reconciled theory and observation. Dr. Duncan's maximum pressure for rupture amounted to 3·10 lbs. per square inch. In my calculation I assumed that the uterine muscles are the same as the other muscles of the body, and I found no reason to believe that these differ much from one another in the respect in question, even the heart included, the amount of contractile force per square inch being pretty much the same for all, although there is some advantage in favour of the finer muscles, but not much. I dissected five or six pregnant women after death in order to determine the weight of the uterine muscles, and I arrived at the conclusion by calculation that the power they exert is equal to 3·4 lbs. per square inch. The facts have an important



bearing on the question of design in the construction of the uterus. In the uterus we have a muscle that grows for a particular purpose, and it does not grow day by day, as other muscles do, measuring its strength against an increased resistance, but grows mysteriously and in an unknown manner for nine months to a considerable extent beyond its original magnitude until it is suddenly called on to do its work; and if we find that this muscle is unquestionably able to produce a pressure of 3·4 lbs. on the square inch, and if we also find that the maximum amount of pressure that it is ever called on to overcome is only 3·1 lbs. on the square inch, every thoughtful mind must see that there is evidence of design in that. I believe this result of my calculations compared with those of Duncan and Tait has been considered by metaphysicians as a strong contribution to the idea that there is something behind the matter of the universe in the shape of a designing mind. Therefore, as far as the first stage of labour is concerned we may regard the question as settled. Something like 50 lbs. pressure on the whole outlet will rupture the membranes, which is equal to 3 lbs. per square inch in ordinary labour unassisted by medical skill.

The next force brought into operation is that of the abdominal muscles, which we may call the *vis à tergo*. In nature there is no traction. I believe man has the credit of assisting nature by devising the forceps and other means of traction in front. Dr. Mathews Duncan has, I think, somewhat misunderstood my conclusion as to the abdominal muscles and the *vis à tergo*. He read a paper some years ago, which was a criticism on the results I had obtained. He assumed that I supposed that the whole of this *vis à tergo* was available for the expulsion of the child. On the contrary, it clearly is not. There is an enormous power in these muscles representing the *vis à tergo*, acting through a very small space, the greater part of which is lost in transmission. My calculations were made in reference to the curvature of the abdominal walls and the various muscles, and I confirmed these calculations by experiments of a simple kind. The late Dr. Hayden made some experiments independent of me, and his results corroborated mine. I put a man lying on his back on the table; I put a circular disc on his abdomen; and I put weights on the disc until he was unable to lift them. Thus you get the amount of compressive force that the abdomen is able to exert inwardly. That pressure unquestionably came to 33 lbs. on the square inch.

Dr. Duncan seemed to think I said that the whole of this enormous force was pressing the child into the world. I never intended that. I was invited by him and others to read a paper explanatory of the discrepancies between the several results; but from that day to this I never succeeded in getting the information that I wanted. I see now that I may be able to get the data that I require, and if so, I will read the paper to reconcile Dr. Duncan's observations and my own as to the

second part of labour. The only discrepancy is that we differ as to the amount of force available. If I be right there must be some enormous loss in the transfer of force from the abdominal wall to the foetus. Now the information we want is this—What is the amount of traction in difficult labour? The question raised by Dr. Duke is—What is the amount of traction allowable where the alternative is between that traction and craniotomy? There can be no more important question, as Professor Dill has admirably shown. The only authority I could find was Joulin, who made experiments on the dead bodies of women who had died in childbirth, using a forceps and dynamometer attached, and he found that the requisite force was 110·23 lbs. Dr. Duncan considers that too much, and makes it 80 lbs.

After his paper was read I asked my late friend Sir Edward Sinclair to allow me to attend with him at some ordinary cases of forceps delivery. We prepared a Barnes's forceps with an improved dynamometer. He performed the operation, and the dynamometer frequently reached 100 lbs. per delivery, but never went beyond it. This seems to show that in an ordinary delivery, not approaching the limits of craniotomy, something like 110 lbs. per square inch is the force required. 500 lbs. is the force applied on the abdominal wall. That has to be passed inwards to squeeze the child through a narrow passage, in which the amount of friction is enormous. On mechanical principles the abdominal wall force must be reduced to a fifth of its original amount before it is applied to the expulsion of the child, and therefore it may turn out that there is no difference between me and Dr. Duncan on the question.

I would refer to Dr. Duke's case, in which the woman was operated on under the influence of chloroform, and three persons had to hold her in order to prevent her from being pulled off the bed, and said—The pull exerted there was much greater than 100 pounds to the square inch. By putting a hook into a wall and reproducing the exact pull and measuring it with a dynamometer, Dr. Duke could let us know the exact traction in pounds per square inch that he exerted. I do not feel satisfied with the experiments in the delivery of dead children—live and dead bodies are so different. In the case of a dead body a pull of 110 lbs. per square inch might be required for delivery, but in the case of a living individual the muscular forces exerted by the abdomen might cut that down to 80 lbs. The step wanting is the ascertainment of the amount of tractile power that should be applied to the child's head under ordinary conditions—under the condition of a narrow pelvis, and, lastly, under the extreme conditions contemplated by Dr. Duke when the only other alternative is the destruction of the child. I quite agree with Professor Dill—whom I am extremely glad to see amongst us—as to the extreme importance of putting these results into actual numbers, and if

he and Dr. Duke help us towards this we shall be under great obligations to them.

DR. MACAN.—A great many points have been raised during this discussion, but the chief point of Dr. Duke's paper was the means of using additional traction in forceps cases. He has brought forward three—1, the auxiliary hooks to be applied to the forceps; 2, spikes to prevent the feet slipping; and 3, the belt round the waist, to which the auxiliary hooks are to be fastened. Now, the auxiliary hooks differ from those in Tarnier's forceps merely in being introduced separately; nor does their great excellence consist so much in affording means for additional traction as in enabling us, with greater ease and certainty, to apply the force we do exert in the right direction—viz., in the axis of the brim of the pelvis. If a man understands what he is about it is, however, easy to make traction with Barnes's forceps in the axis of the brim of the pelvis, but then traction must be made with both hands, and the handle of the forceps drawn towards the body of the operator, while always remaining parallel to the same straight line. But I entertain no shadow of doubt that when the head is in the brim of the pelvis it is easier to apply the extracting force in the right direction with Tarnier's than with Barnes's forceps. As to the second means of increasing our powers of traction brought forward in Dr. Duke's paper—viz., the spikes to be fixed to the soles of the boots—I quite agree with him that if we want to exert great traction we must have some means of preventing the feet from slipping. This I have always managed by placing one of them against the foot of whoever is holding the woman. If there is no one to hold the woman the spikes would only enable us to pull her off the bed, and that would not help matters much. The third means—viz., the belt—enables us to use the weight of the body easily to assist the traction of the arms, and I am inclined to think that it may save the operator some trouble, though I think that in a difficult forceps extraction it is not difficult to use the weight of the body by raising oneself from the seat on which one may be sitting by pulling on the handles of the forceps. But the chief objection I have to this way of looking at the whole subject is that it presupposes that what we want most is additional aid in making traction, and not, as I think, more skill in using the means already at our disposal. In other words, it is an effort to substitute mere brute force for educated mechanical skill and common sense. There is no difficulty in getting additional traction power. If this were all, we could get pulleys and tackle screwed on to the end of the forceps, or a sort of capstan and bars, as is shown in a Japanese picture of difficult labour given in a paper by Dr. Engelmann on "Posture in Labour" in the last volume (1880) of the "American Gynæcological Transactions." The real question that is to be decided is what is the amount of force that we can use that will enable us to

extract a living child without doing serious injury to the mother. We have not gained much if by violent traction we extract a child which dies within a few days of its birth from rupture of one of the sinuses or fracture or depression of the bones of the head, or if we at the same time cause sloughing of the vagina or separation of the pelvic symphyses. Not only must we consider the amount of traction used, but we must also take into consideration the length of time during which we shall probably be called on to use it. Violent pressure for a short time is not so injurious to the mother as a much less pressure if long continued; and this it seems to me is one of the great advantages that turning has over the forceps in cases of contracted pelvis, for if we turn the child and fail to deliver after one or two minutes' powerful traction, we know it is useless to continue it longer as the child will be dead, and we therefore use the perforator, and thus save the soft parts of the mother. Indeed as long as the head is above the brim, the application of the forceps is a very haphazard proceeding, for we cannot tell in what diameter we will catch the head; whereas if we turn we know the bitemporal diameter will come into the conjugate diameter of the pelvis. There have, however, been various attempts made to estimate what amount of pressure may be made on the foetal head and the maternal soft parts without injury to either. Joulin has found that the amount of traction exerted in a difficult forceps case amounts to 150 lbs.; and Dr. Goodell estimates the amount of force exerted in the extraction of an after-coming head at 200 lbs., 150 lbs. of which were from traction on the body by the operator and 50 lbs. from pressure by an assistant over the pubes. The question of the amount of force exerted by the uterus in natural labour has, I conceive, nothing to say to the point under discussion. But it is quite certain that the uterus is capable up to a certain point of exerting a force in proportion to the resistance offered to the expulsion of its contents, which is often many times greater than that exerted in ordinary labour. Mathews Duncan has estimated the latter at  $16\frac{3}{4}$  lbs., while Joulin places the former at 100 lbs. Dr. Haughton's argument of design I do not, therefore, think a very strong one.

DR. NEVILLE.—I should like to ask in how many cases has Dr. Duke used this means of increasing traction, and what has been the result to the mothers and the children? Of course a limited number of cases gives very little information. I would also ask how often he found this increased traction necessary?

DR. DUKE, in reply.—I am very much pleased that my paper has elicited this interesting discussion, and I am very much obliged to Dr. Haughton for coming here. As to Dr. Neville's question, my paper contains all the cases in which I used the belt and tractors except one, which occurred since I commenced the practice. The woman had had three children, all of whom I heard had been craniotomised. I delivered her

of a living child. I do not say that it is necessary to use the belt in every case, but I claim for it the advantage that it gives a great deal more comfort to the operator. I think spikes in the feet are better with the belt than anything else.

*New Instruments.*

DR. DUKE then exhibited the following instruments:—Cervical curette, for removing tenaceous mucus from cervical canal, and which can also be used for carrying ointment into the uterus; modified duck-bill speculum, with flat blade and cross handle; speculum forceps, cross action; double tenaculum; female urethra dilator; tractors for use with any long midwifery forceps; belt and foot-holder, for use with tractors; wedge-shaped knife, with uterine director, for division of cervix; sponge holder, with screw collar.

The Society then adjourned.

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*Saturday, July 1st, 1882.*

J. A. BYRNE, M.B., President, in the Chair.

*Interstitial Fibroid Tumours.*

The PRESIDENT exhibited several specimens of interstitial fibroid tumours. He said: These were some time ago removed from a young woman in St. Vincent's Hospital. Dr. Kidd assisted me in the operation. She was unmarried, with dark hair and fine skin, in every way healthy save that she had suffered for many years from severe hæmorrhages. She had been in England, and had been in hospital there, and a medical gentleman, according to her own statement, had removed twelve of these tumours. I explored her uterus, and having allowed sufficient time to elapse, I proceeded to remove the tumours. They were embedded in the posterior wall of the uterus, and belong to the class known as interstitial fibroid tumours. There were seven of them removed altogether. One of them, a very large one, was broken in the removal; the others vary in size, but are not so large. After the operation the woman got well. She recovered strength very rapidly when she was sent to the convalescent department attached to the hospital. After about a year the hæmorrhage returned. It appears that during the interval between the operation in Liverpool and the operation performed here the hæmorrhage also had ceased. This leads me to believe that the tumours either grow again or others take their places. She came in under my care again, and on examining her I thought I detected more tumours. I proposed another operation. To this, however, she would not consent. Early in the spring of this year, I believe, she put herself under the care of Dr. Kidd, and I hear that she died in the Coombe Hospital since.

DR. KIDD.—At the time I operated upon her she was almost bloodless. Her breathing was extremely low. I hesitated before I asked her should I undertake the operation. I examined the uterus, and found one of these tumours growing into the cavity. The woman was in an exceedingly dilapidated state, and, in fact, she never rallied. She died on the third day. There was no *post mortem* examination. This case is very like another I had of a woman, about twenty-seven years of age, upon whom three or four operations had been performed, but in that case the woman recovered, and she is in perfect health at this moment. That was a remarkable case in some respects; I believe it was the first in which nitric acid was applied to the interior of the uterus. A sister of that woman also had those recurring tumours. I operated twice upon her, removing six tumours at one time and four or five at another. She also is in good health, but the tumours have grown again. One of the sisters has passed the period of menstruation, and is in perfect health; the other is in a leading establishment in the city, and enjoys good health. The whole of this subject has been very lately investigated, and it is one of very considerable importance. So far as I know there is nothing characteristic in these tumours. They are of the fibroid class, and there is nothing in them to make them remarkable.

#### *Hæmorrhagic Polypus.*

DR. HENRY produced a specimen of hæmorrhagic polypus which had been passed by a woman who was about three months pregnant. In March she menstruated; she passed the menstrual period in April, and in May she felt something coming away like a gush of blood. In the month of June she passed this large clot, containing a small foetus. The cord evidently came away with the tumour. When the tumour was divided the placenta at the upper part of it was one mass of blood. The placenta and membranes were found attached to the tumour.

#### *On Lacerations of the Cervix Uteri; their Consequences and Treatment.*

By THOS. MORE MADDEN, M.D., F.R.C.S.E., M.R.I.A.; Obstetric Physician, Mater Misericordiæ Hospital; and Physician to the Hospital for Sick Children, Dublin; formerly Vice-President, Dublin Obstetrical Society; Assistant Physician, Rotunda Lying-in Hospital; and Examiner in Obstetric Medicine, Queen's University, Ireland.

LACERATIONS of the cervix uteri resulting from parturition, their effects and treatment, are subjects which have not as yet received anything like adequate consideration in this country. Thus, in the most recent English text-books of obstetric medicine and gynecology, these questions are either insufficiently noticed or entirely ignored. And, up to the present time, although discussed at the International Medical Congress in London last autumn, as well as elsewhere, there has been no allusion whatever



to cervical lacerations and their treatment by trachelorrhaphy, or Emmet's operation, in the Transactions of this the oldest British Obstetrical Society.

This omission is the more remarkable, as these fissures are of common occurrence even in natural delivery, and promise to be still more frequent in future practice, from the increasing employment of the double-curved forceps in the earlier stages of labour.

The special liability to cervical injury under the latter circumstances cannot be questioned by anyone who considers the normal condition of the cervix and os uteri. And it would seem impossible that, before the natural dilatation of these parts, the foetal head at full term could instrumentally be forced through them without causing some solution of continuity. Nor can the scant attention here bestowed on this accident be due to the unimportance of its results. The tapering, nipple-shaped neck of the sterile uterus, slightly projecting into the vagina, its apex intersected by a small transverse dimple, or marked by a minute circular depression indicating the os externum, is obviously a very different structure from the hypertrophied, fissured cervix, with irregularly gaping mouth, semi-concealed by a glairy, or muco-purulent discharge, through which the everted endo-cervical mucous membrane may be seen extruding in so many of our child-bearing patients. This difference is a result of the lesion we are about to consider.

The non-recognition of cervical lacerations as the cause of various chronic uterine complaints, is owing to fissures of this kind often requiring no immediate attention, and in some instances healing without leaving any obvious proof of their occurrence. And, even when extensive, the symptoms to which these lacerations give rise have been generally misinterpreted and assigned to different causes.

The following observations are therefore now submitted in the hope of eliciting the opinion of others, as well as to record my own experience of the frequency and pathological importance of cervical laceration, and the value of Dr. Emmet's method of treatment in such cases.

With reference to the frequency of this condition, as met with in hospital practice, I may observe that ever since attention was directed to the subject by Dr. Emmet's writings, I have found it almost exceptional to examine the uterus of any fruitful woman, supposed to be suffering from chronic cervicitis or chronic endo-metritis, in which some traces of traumatic widening or fissuring of the os or cervix uteri were not discoverable. In most of these instances the lesion was so slight as to be of no ætiological significance, and its evidences were only to be ascertained by careful exploration, and obviously called for no special treatment. In a certain proportion of cases, however, the laceration was of a graver form, and its recognition and cure was followed by the complete subsidence of symptoms which had been attributed to other morbid



conditions, or to displacements of the uterus. Those who, during the last few years, have attended my clinique at the Mater Misericordiæ Hospital, will call to mind how often such lacerations have been brought under notice in the Gynæcological Wards and Extern Department of that Institution.

Although our actual knowledge of the treatment of cervical lacerations, especially by trachelorrhaphy, is unquestionably of recent transatlantic origin, the common occurrence of these fissures in midwifery practice was remarked by many of the older obstetricians. As far back as the middle of the seventeenth century this was observed by Mauriceau in his "*Maladies des Femmes Grosses*;" and in England, the younger Chamberlen, in his translation of Mauriceau's work, refers to the frequency of "unnatural deliveries from a strong cicatrice, which cannot be mollified by a preceding ulcer or a rupture of a former bad labour—so agglutinated it must be separated with a fit instrument lest another laceration happen in a new place, and so leave the woman in a worse condition than before."<sup>a</sup>

In Smellies' "*Cases in Midwifery*," "lacerations of the cervix uteri are frequently alluded to as the cause of rigidity of the os, and, consequently, protracted labour in multiparous patients."<sup>b</sup>

Amongst the proofs of former delivery, Rœderer lays special stress on the cicatrices of cervical lacerations:—"Interim præterea labiorum margines fiunt inæquales tamquam incisionibus notati et cicatricibus fuerint."<sup>c</sup>

As ordinary results of difficult labours, lacerations of the neck of the uterus were described nearly a century ago by Denman, who says, that the part which generally gives way in such cases, "whether posterior, which is most common, or anterior, or lateral, is usually near the union of the cervix with the vagina."<sup>d</sup>

Dr. Hamilton in his "*Cases of Midwifery*," speaking on the same point, says:—"The most common seat of laceration is in the cervix, towards the promontory of the sacrum, and its most ordinary direction is transverse."<sup>e</sup>

Dr. Blundell, sixty years ago, to some extent anticipated our present views on this subject:—"The broken circumference of the os uteri," he says, "produced by the pressure of the head during former labours, may be mistaken for ulceration. A rugous os uteri, or the parts roughened

<sup>a</sup> *The Diseases of Women with Child and in Childbed.* By Francis Mauriceau. Translated and Enlarged, by Hugh Chamberlen, M.D. P. 197. London. 1672.

<sup>b</sup> *Cases in Midwifery.* By William Smellie, M.D. Vol. III., p. 64. London. 1752.

<sup>c</sup> *Elementa Artis Obstetriciæ.* J. Y. Rœderer. P. 41. Gottingen. 1753.

<sup>d</sup> *Introduction to the Practice of Midwifery.* By Thomas Denman, M.D. P. 260. London. 1787.

<sup>e</sup> *Cases in Midwifery.* By James Hamilton, Jun., M.D. P. 150. Edinburgh. 1795.

by the Glandulæ Nabothi, may be erroneously supposed to be affected with malignant disorganisation.”<sup>a</sup>

About the same time lacerations of the neck of the uterus were described by Dr. D. Davis, of London,<sup>b</sup> and also by Dr. Collins, of Dublin, in the first published volume of “Statistical Reports of the Rotunda Lying-in Hospital.” Dr. Montgomery also thus alludes to cervical fissuring:—“When the os uteri of a woman who has borne children is examined its labia are in general found jagged or notched, and sometimes as if a portion had been torn and remained separated from the rest. I attach great consideration to this state of the part, because it is not likely to be produced by the expulsion of any accidental formation from the cavity of the uterus; and I have never met with it except after childbirth, nor do I believe that was the natural original condition of the uterine orifice.”<sup>c</sup>

In my edition of “The Dublin Practice of Midwifery,” it is stated that the usual situation of laceration is “either transversely at the place where the cervix impinges on the promontory of the sacrum, or where the cervix and vagina join, in which case both vagina and uterus are involved in the rent.”<sup>d</sup>

These rents and their results were described twenty years since by Dr. J. H. Bennet, who remarks:—“Sometimes the cervix is not so much dilated as burst open, and the lacerations radiating from the centre divided it into segments, which can be traced both with the finger and the eye at a subsequent period. . . . This I have found to occur most frequently in very rapid labours, when the pains are severe and prolonged, and the dilatation of the os uteri takes place very rapidly. Instrumental and difficult labour is very frequently accompanied by laceration of the neck of the uterus, in the absence of any morbid state. . . . In such cases the cervix generally presents deep fissures, caused by the lacerations . . . which are more especially observed when turning has been resorted to, and the hand of the accoucheur has been passed through the os before its full dilatation. . . . These lesions, whether slight or severe, may not heal, and thus a confirmed inflammatory ulceration of the os uteri becomes established.”<sup>e</sup>

It would be easy to extend the foregoing references and citations, which are sufficient to show that the frequency and pathological import-

<sup>a</sup> Principles of Obstetric Medicine. By James Blundell, M.D. P. 752.

<sup>b</sup> Principles of Obstetric Medicine. By D. Davis, M.D. Vol. II., p. 1061. London. 1836.

<sup>c</sup> An Exposition of the Signs of Pregnancy. By W. F. Montgomery, M.D. P. 279. London, 1837.

<sup>d</sup> Dublin Practice of Medicine. Edited by Thomas More Madden, M.D., Senior Assistant-Physician, Dublin Lying-in Hospital. P. 208. London. 1871.

<sup>e</sup> Practical Treatise on Inflammation of the Uterus. By J. H. Bennet, M.D. Fourth Edition. P. 196. London, 1861.

ance of cervical lacerations, although latterly lost sight of, were long since known. None of those, however, by whom this accident was formerly described, have left any suggestions as to its reparative treatment, the credit of which has been reserved for Dr. Emmet.

The frequency of ruptures of the cervix uteri in American practice is shown by Dr. Emmet, who says:—"Previous to collecting the statistical material for this work, I had recognised and treated 219 cases of laceration of the cervix in my private hospital. This shows that a little over 16 per cent. of all women who had passed under my observation, and had been impregnated, were found to have had laceration of the cervix. This proportion will seem to many a large one; and yet, as the record extends over thirteen years, doubtless many cases during that period were not recognised. It was fully six years after my first operation that I had gained experience enough to detect this lesion under its varied forms, while the treatment itself was not perfected until several years later. To arrive at more definite results as to the frequency of this injury I have taken from my case-books the records of the last five hundred fruitful women coming under my care in private practice. The result is reached that 32·80 per cent. of all women under observation, who had been impregnated, and suffered from some form of uterine disease, were found to have laceration of the cervix."\*

The apparent difference in the comparative prevalence of cervical lacerations requiring treatment—indicated by the attention given to this subject in British and American practice—may, perhaps to some extent, be ascribed to the larger proportion of assisted labours in the latter. And, although some authorities hold that the duration of labour rather than the method of delivery is the chief factor in the causation of fissuring of the os and cervix, it seems quite evident that no process of natural dilatation, however rapid, can be so liable to occasion rupture of the circular fibres of the os and cervix as its forcible manual extension, in efforts to complete delivery by version or the forceps. Some years ago I brought cases before the Dublin Obstetrical Society, in which I had been called in consultation, where the cervix had been thus torn through, by the abuse of the double curved midwifery forceps. The same accident have I seen from version, where the hand was forced rather than insinuated into the uterine cavity before the full dilatation of the os, and have been consulted when similar consequences had followed undue manual violence in the removal of a retained placenta.

More than thirty per cent of Dr. Emmet's cases were ascribed to tedious labours. "This proportion," he observed, "will be greatly increased by the addition of the forceps' cases, which properly should be placed under the head of tedious labour, since we may assume that

\* *The Principles and Practice of Gynæcology.* By Thomas Addis Emmet, M.D. P. 451. Second Edition. New York, 1880.

forceps were only employed for delivery after the labour had been prolonged. When laceration does occur from delivery with the forceps amongst the poorer classes it is almost always double; and I have seen at the Women's Hospital an extent of injury never met with in private practice. On consulting the records of the physicians attending these cases, it is evident that there are some who, with a view to saving time, are in the habit on their arrival of delivering by forceps without, apparently, the slightest reference to the stage of labour."<sup>a</sup>

Laceration of the cervix uteri, whether from the premature use of the forceps in the first stage of labour, or from precipitate natural delivery, is a subject of considerable obstetric interest as one of the causes of flooding. I have elsewhere drawn attention to cases of *post partum* hæmorrhage thus occasioned, of which I have now met with many instances. And I may here repeat that—"There is reason to anticipate that, when the practice recently advocated of applying the forceps before the natural dilatation of the os uteri becomes generally adopted, as seems likely, the next generation of midwifery practitioners will thenceforth have an ampler opportunity of witnessing this accident than was the case in the practice of their possibly slower, but certainly safer, predecessors in the obstetric art."<sup>b</sup>

The following are the notes of some cases of *post partum* hæmorrhage from ruptures of the cervix uteri which have come under my observation:—

CASE I.—M. T., aged thirty, first pregnancy, was delivered naturally of a girl after a somewhat slow labour, being fifteen hours in the first stage, five and a half hours in the second, and fifteen minutes in the third stage. A slight but persistent drain commenced immediately afterwards, and this continued, notwithstanding the remedies employed, for several hours. An examination was then made and the bleeding traced to a small artery in the lacerated anterior wall of the cervix. This was arrested in the usual way by ligatures, and the still oozing contused surfaces brushed over with the perchloride of iron. The patient made a satisfactory recovery.

CASE II.—E. H., thirty-two, second labour, delivered at 4 a.m., November 4th, of a boy, the circumference of whose head was fully fifteen inches. The labour was unusually rapid under the circumstances, she being only two hours in the first stage, two hours in the second, and twenty minutes in the third. The uterus contracted firmly, but nevertheless smart hæmorrhage continued for some hours, and did not subside until it was ascertained that this proceeded from an extensive antero-posterior laceration throughout the cervix. This was controlled by

<sup>a</sup> Op. cit.

<sup>b</sup> On the Prevention and Treatment of Hæmorrhage after delivery. By T. More Madden, M.D., British Medical Journal, April 17th, 1880.

the application of the solid perchloride of iron and plugging, the uterus being well contracted.

**CASE III.**—A. H., aged eighteen, first pregnancy, was delivered June 24th after a labour perfectly natural, but unusually precipitate, considering that the child, a girl, was of the average size. She was only one hour and a half in the first stage of labour, three-quarters of an hour in the second stage, and there was hardly any interval between the expulsion of the child and placenta. The uterine action was inordinate and incessant from the commencement of labour, and it was found impossible to save the perinæum. The uterus now contracted vigorously, and it was then noticed that there was a good deal of hæmorrhage. As this resisted the injection of perchloride of iron, &c., the cervix was examined and found extensively bilaterally torn, and, as soon as a duck-bill speculum could be procured, was brought together by silver wire sutures. This patient had a subsequent severe attack of pelvic cellulitis, on her recovery from which the cervical wound was found much contracted, but not completely united.

**CASE IV.** was that of a lady, aged thirty-nine, whom I delivered with the short forceps, as she had been for seven hours in the second stage. The child was a girl, and the pelvis was somewhat small. There was nothing beyond the ordinary amount of discharge noticeable when I left her at 4 a.m., an hour after delivery; but I had hardly reached home when I was recalled and informed that active hæmorrhage was going on. This I found to be the case, and, having failed to arrest it by ordinary measures, examined and found the cervix torn through its anterior wall. The uterus was drawn down by a vulsellum, and four sutures being introduced, the hæmorrhage stopped. On her recovery, which was uninterrupted, the laceration was perfectly healed.

**CASE V.** was an instance of laceration from turning in the patient's fourth confinement. The shoulder presented, and the funis became prolapsed, and as the funic pulsations were becoming dangerously weak, I was obliged to dilate the os, although somewhat thin and rigid, from the size of half a crown, so as to perform version. This was effected under ether, and with as much caution as was compatible with speedy deliverance. Nevertheless, I was conscious that some extent of bilateral cervical laceration was occasioned. Immediately after delivery severe flooding took place, which, having no other means at hand, I arrested by the local application of the solid perchloride of iron. After some time she had a severe attack of pelvic cellulitis, from which she recovered. When I next saw her she was suffering from pelvic pain, bearing down, and mucopurulent discharges, the result of cicatricial ectropium of the cervix. She refused to allow the operation which was suggested, and so had to be treated by palliative measures, application of carbolised iodine, astringent tampons of Lawton's cotton saturated with tanno-glycerine, &c., until all

evidences of local inflammation had subsided. The weight of the enlarged uterus was then taken off by a pessary, and ultimately all the effects of the accident subsided without any operative interference.

The effect on subsequent delivery of cicatrices resulting from cervical lacerations is a matter of practical interest, these being a more frequent cause of tedious labour than is generally supposed. In Dr. Churchill's "*Diseases of Women*" a number of cases are referred to in which the cervix was thus rendered hard and undilatable. In some of these the os had become so contracted and undilatable from the cicatrices of former lacerations, that an artificial opening had to be made in order to effect delivery. In seven cases cited by Dr. Churchill this operation was followed by death, and in only three did the patient recover.\*

I have myself seen two cases of rigidity so caused, in which it was found necessary to incise the os. Cervical laceration is an occasional starting-point of ruptures extending through the upper portion of the vesico-vaginal septum. I have now under treatment a case of vesico-vaginal fistula of this kind. The patient, a lady in labour of her sixth child, whom I previously delivered by the forceps, was on this occasion precipitately confined of a very large child before I could reach her residence. I was assured that she had only two good pains, and had emptied her bladder before the second pain occurred. This was of unusual severity, and she at once exclaimed, "Something has broken," and immediately the foetus was expelled. On the following morning she complained of incontinence of urine, which I ascribed to the pressure on the neck of the bladder; but, as it continued after some days, an examination was made, and a rent was discovered traversing the anterior wall of the cervix and down through the upper part of the vesico-vaginal septum, so as to cause a large triangular-shaped fistulous opening, involving the greater part of the base of the bladder. During recovery from childbed she had an attack of pelvic cellulitis, and was seen in consultation by the late Dr. Hayden and also by Dr. Kidd. Fourteen months subsequently she was operated on, with the effective aid of my colleagues, Mr. Hayes, Senior Surgeon to the Mater Misericordiae Hospital, Dr. Kennedy, also of the surgical staff of the hospital, and our respected President, Dr. Byrne, from whom, as well as my other colleagues, I have received much valuable co-operation in many cases where no other recognition of their services than my thanks was possible. The operation, which was necessarily tedious, was performed under ether, and the cicatricial edges of the laceration being completely vivified the wound was closed by five sutures. On the third day she became feverish, and the temperature ran up to 101°, but this soon subsided, and on the removal of the sutures the wound was found almost closed.

\* *Diseases of Women.* By Fleetwood Churchill, M.D. P. 126.



The connexion between cervical laceration and many of the supposed symptoms of chronic inflammatory uterine and ovarian disorders is one of the most important questions we could here discuss. For many years most of the chronic disorders of women were ascribed by the followers of Dr. Bennett to subacute inflammation of the uterus, and more especially of the cervix uteri. Then came a period when the same symptoms were almost as generally attributed to ovarian disease. This opinion in time has been succeeded by the mechanical view of those who hold, with Dr. Graily Hewitt, that the keystone of uterine pathology is to be found in the various flexions and displacements of the uterus. And, lastly, we are now at the commencement of what promises to be a new departure in gynæcology—namely, the doctrine that the majority of those chronic uterine complaints which have heretofore been ascribed to cervicitis, or cervical hyperplasia, or ulceration, or to displacements and flexions of the uterus, are in reality the result of lacerations leading to pathological structural changes in the cervix uteri and adjoining parts.

It appears to be now conclusively established by the observations of Drs. Thomas, Paul Mundé, Dudley, Goodell, Pallen, Playfair, and those other American and English gynæcologists who have adopted Emmet's views, that ectropium of the endo-cervical mucous membrane is a frequent result of the lacerations described. In such cases the uterine mucous membrane is forced down through the gaping lips of the wound as soon as the patient rises from the lying-in bed. This extruded membrane is a focus of irritation, spreading upwards and causing endo-cervicitis, the edges of the rent becoming the seat of erosion, or chronic follicular ulceration, the hardened cicatricial tissue around the rent, after some time, assuming a distinctive character and becoming a veritable neoplasm. A more immediate result of bilateral cervical ulceration is subinvolution of the uterus, from the extension of cervical inflammation to the body and fundus of the then tumefied and enlarged organ. In like manner we find pelvic cellulitis following traumatic injury of the cervix, and, as the effect of this, flexions and displacements of the uterus are frequently met with in the victims of extensive cervical ruptures. For if the cellulitis affects either of the suspensory ligaments so as to cause its thickening and shortening, the uterus must thereby be thrown out of its normal position, and a constant strain and sense of wearing pelvic pain must be occasioned. These symptoms can be relieved only by relaxing this tension, either by restoring the inflamed ligament to its normal condition, which is next to impossible, or, more easily, by taking off the dragging uterine weight by a properly adjusted pessary. Hence the benefit experienced from mechanical support in many cases of chronic pelvic pain, which is more often consequent on cervical laceration than on any primary displacement of the uterus.



The general symptoms of chronic cicatricial ectropium being hardly distinguishable from those of the conditions with which they have been so long confounded—namely, cervicitis, hyperplasia, and ulceration of the neck and orifice of the uterus, need not be here enlarged on; but in all doubtful cases the diagnosis may be readily made by Dr. Emmet's test. This simply consists in exposing the affected parts by a duck-bill speculum, securing the gaping anterior and posterior lips of the cervix with a tenaculum in each hand, and then bringing them together, when, if due to laceration, the inverted portions will roll in towards the canal, "the apparent hypertrophy will disappear, and the aspect of the cervix will resume its normal appearance."

In the majority of instances the direction of the fissure is antero-posteriorly, and it may extend through both walls, or be limited, as is more commonly the case, to the anterior aspect of the cervix. When thus situated these fissures, if superficial, often occasion comparatively little inconvenience, and in many instances are healed during the period of convalescence after delivery without giving rise to any symptoms which would disclose their existence. But when from the mal-use of instruments or manual dilatation of the os, to expedite delivery by version or the forceps, or for the removal of a retained placenta, or from the unusual size of the child or any other cause, the cervix is extensively bilaterally ruptured, then the results of the accident will be obviously far more serious, and will produce the pathological effects already described. Under these circumstances, as also in those cases of antero-posterior laceration in which the reparative process has been arrested by either local inflammatory, or constitutional conditions, then, as a rule, surgical or operative interposition will be required.

If it were generally possible to bring the torn surfaces together by sutures immediately after the occurrence of the accident, this would probably be the most desirable course; but in the majority of cases this procedure is not feasible, nor according to my experience is it always successful. Hence the space now remaining may be best occupied by a brief review of the secondary treatment more generally available. This includes the palliative measures by which, if no better result be obtained, we may at least lessen the uterine irritation and areolar hyperplasia of the cervix resulting from chronic cicatricial ectropium, and also embraces those measures by the use of which the necessity for trachelorrhaphy may possibly be obviated. The latter being familiar to every gynaecologist, it is only necessary to observe that in several cases of extensive laceration I have succeeded in restoring the cervix to a healthy condition, and removing all the attendant symptoms by the free destruction of the cicatricial tissues by the actual cautery, generally employing for this purpose Paquelin's thermo-cautery, although I have also used the old-fashioned cautery iron and the galvanic cautery with similar results.

In some instances almost equally good effects have followed from melting down the affected structure with potassa cum calce, or removing them with fuming nitric acid or the acid nitrate of mercury; and in cases of slight fissuring of the cervix giving rise to chronic inflammations, hypertrophy, and ectropium, the use of some of the milder caustics has been sufficient to effect an apparent cure.

Of the local applications which may be employed for this purpose the most effectual is iodide of phenol, with which the cicatricial tissues may be repeatedly brushed over at short intervals. At the same time tampons of absorbent cotton soaked in tanno-glycerine may be introduced daily, and when the subacute inflammatory action has been thus modified these applications may be discontinued, and warm irrigation with any astringent antiseptic, such as the sulpho-carbolate of zinc, employed three or four times daily. Under this treatment all the before-described symptoms sometimes subside, but too often the way is only thus paved for the radical cure of the morbid state by the operation which must be always associated with Dr. Emmet's name.

The results of this procedure, in the cases in which I have performed trachelorrhaphy both in my hospital and in private practice, and which I hope on another occasion to bring the details of before the Society—as this paper is already too long to permit my now doing so—have been sufficiently successful to warrant its repetition in any similar cases. For the benefit of those who have not yet employed this valuable operation it may, perhaps, be here briefly described. In the first place, care should be taken to prepare the patient for its performance for some time beforehand by syringing or irrigating the vagina repeatedly each day with warm antiseptic injections, so as to wash away thoroughly all the viscid and unhealthy secretions of the inflamed or ulcerated surfaces, and to minimise the cervical congestion. Then, after free purgation on the preceding day, the patient may be considered ready for the operation, which is thus performed:—The cervix is to be firmly drawn down, as far as possible, by a vulsellum fixed in its most hypertrophied flap. The hardened edges of the rent are now to be completely vivified with curved scissors, special care being taken to remove thoroughly all the thickened cicatricial tissue in the angles of the wound, avoiding, in so doing, the division of the circular artery. In order to make a wound the edges of which will come fairly together when closed, the opposing irregularly fissured, cicatricial surfaces must be boldly and deeply dissected out, so as to remove completely the inflammatory outgrowth, which in many cases may, in accordance with Virchow's views, be considered as a neoplasm rather than a mere cicatrix. With regard to the direction and extent of the incisions by which this is to be effected, whether by scissors or scalpel, and the number of sutures by which the wound is to be closed, it

is needless to occupy time, as these must depend entirely on the extent and form of the laceration in each case.

It matters little whether silk or silver wire be employed to close the wound. As a rule, however, I prefer silver wire for the sutures, which should be firmly twisted, cut off short, and left in for a week or ten days. Immediately after the operation a glycerine tampon should be applied to the cervix, and changed next day. After the second dressing the vagina should be syringed out with tepid chamomile tea twice a day until it is time to remove the stitches, when we may fairly hope to find the wound thoroughly cicatrised.

It must be added, however, that with regard to no operation should the surgeon's zeal be more tempered by his discretion than in this. It has been already pointed out that in some cases even of extensive cervical laceration trachelorrhaphy may possibly be dispensed with, and in its performance two conditions are especially needful—on the one hand, all the cicatricial tissues must be freely excised; and, on the other, the normal condition of the cervix and the subsequent integrity of the cervical canal must be carefully maintained.

Finally, it may be observed that the operation now described is occasionally unsuccessful, and in such cases, if the symptoms resulting from cervical laceration are sufficiently urgent, we have it still in our power to remove their cause by the amputation of the mutilated and hypertrophied cervix.

The PRESIDENT.—I am sure the Society must be indebted to Dr. More Madden, as he has been the first to bring forward a paper on this very important subject. The points upon which Dr. Madden has touched must be familiar to most of us. We have been all struck, I am sure, with the fact that in many cases where labour has terminated naturally there has been hæmorrhage for which we could not account. The hæmorrhage in some cases will go on although the uterus is sufficiently contracted, showing it does not arise from this cause. There is no doubt that hæmorrhage proceeds from laceration of the cervix uteri, but I must say that I have not seen a case of that kind that was not controllable by cold applications. At the Congress in London, Dr. Pallen, of New York, stated that cases of hæmorrhage occurring after labour, involving the necessity of mechanical appliances by means of wire sutures, were very frequent indeed. I ventured to express my opinion, founded on observation, that cases of lacerated cervix uteri were not of such frequent occurrence in Dublin. I cannot recollect more than three or four cases of injury to the cervix by laceration; and the only regret I have is that I did not try an operation on some of those cases. If I should meet another case I shall certainly try the plan recommended by Dr. Emmet, and practised by the American schools. No doubt many of the bad effects which occur after severe labour may be traceable to laceration of the cervix.

**DR. KIDD.**—I am quite sure there are many cases of chronic uterine disease which formerly resisted all treatment, or at all events were months if not years before any decided improvement was made in them, but which possibly might now be comparatively easily cured by Emmet's plan, which has conferred great benefits on suffering humanity. The idea of paring the edges and bringing them together, and in that way restoring the parts to their normal condition, is, so far as I know, entirely due to Dr. Emmet. Dr. Madden and you, Mr. President, have spoken of lacerations as the sources of hæmorrhage. You have described without naming it the hæmorrhage that used to be known as Gooch's hæmorrhage. I believe that really this hæmorrhage was laceration of the cervix uteri, although Gooch was not aware of it. His explanation of it, I think, was erroneous, the real explanation, in my opinion, being that it arose from laceration. There are two conditions in which lacerated cervix uteri is found—in one the mucous membrane is soft and covered with a thick discharge, and bleeds upon being touched; the whole cervix is in a state of engorgement. In the other case the parts become hard. This condition has been very well described by Dr. Goodell as like a head of celery that had been split. In this latter condition I have frequently pared the parts and brought them together, and they were thus restored to their normal condition. I have not attempted to operate on the more recent conditions, and I have not been able to make out whether Dr. Emmet has operated himself upon that condition, or whether he recommends it. For one thing, I think the hæmorrhage in such cases would be considerable. Dr. Emmet has described a peculiar instrument for controlling hæmorrhage before proceeding to the operation; but a pupil of Dr. Emmet's, who was here some time ago, assures me that he never saw him use this instrument himself, although he describes it very carefully in his book. The great difficulty that I have had is this: The tissue is tough and dense, and it is not easy in such cases to draw the uterus well down; it will seldom come down very far. You will have some inflammation of the tissues round the uterus, and it is not so safe to drag the uterus forcibly down in order to get at it. Dr. Madden has spoken of the artificial support, and in many of these cases I believe support will still be necessary to help to relieve the pain. The patient will bear the support better after the parts have been brought together. Months after delivery the cervix will still be in a very vascular condition. That is the condition that seemed to me the doubtful one to operate upon. In London, on the paper read there, this question was also discussed, but without any definite opinion being formed. I really do not think men have made up their minds about it. I think the majority of observers are of opinion that it is wiser to treat the case for some time with hot injections, and reduce the inflammatory condition before operating.

**DR. HENRY.**—Most of the mischief arising from ruptured cervixes is

due, I think, to the fact that they are not seen early enough. If the cases were brought under our notice earlier, and a preparatory course of treatment adopted and followed up, it might not be necessary to operate. Where there is only one large fissure on one side, and where there is no bilateral fissure on the opposite side, a preparatory course of treatment, if taken early, would, perhaps, be sufficient. Ruptures of the cervix are not always produced by the use of forceps.

DR. DUKE submitted an instrument which he had invented to be used in cases of this kind.

DR. MADDEN, in reply.—I am greatly pleased to find that the majority of those who have given their experience here are rather in favour of the importance of this subject as a matter worthy of consideration. I may state that cases of laceration are not so very frequent in Dublin. I have, however, seen it necessary to plug the uterus to stop bleeding long before Dr. Emmet's book was published. The cases of ruptures that I have seen were five in number. In three of these I put in sutures, and the womb fairly healed; and in the remaining two I adopted the other course with about the same result. It would be difficult to explain the method by which the cure was effected in some cases of this kind. I do not agree with Dr. Henry that the sooner we see these cases the earlier will we effect a cure. I think you want to get a little hardness about the parts first, and they will afterwards unite better. The instrument Dr. Duke has designed reflects credit on him.

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#### CASE OF OBSTRUCTION OF THE INFERIOR CANALICULUS OF THE EYE BY DACRYOLITHS.

CONCRETIONS formed by the deposit of the saline elements of the tears are but rarely observed. In the *American Journal of the Medical Sciences* for July, 1882, the case of a man, aged forty-six, is reported which came under the observation of Dr. Henry G. Cornwall, complaining of an interference with the escape of the tears from the left eye, which had annoyed him for ten years. An examination revealed lachrymal conjunctivitis, the lachrymal punctum slightly everted, its orifice of normal size, and the walls of the canal somewhat thickened. No accumulation of tears in, or any evidence of inflammation of the lachrymal sac. Suspecting a stricture of the canaliculus this passage was slit up by means of a delicate pair of scissors, one blade of the instrument passing readily through the canal without obstruction. On the following day on attempting to separate the edges of the incision, in order to prevent their union, by means of Bowman's probe held vertically, the instrument struck a gritty substance, which proved to be one of four dacryoliths which were arranged bead-like along the floor of the canal. The canal itself after their removal was found to be much enlarged as a result of this calcareous deposit.

## PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—WILLIAM STOKES, M.D., F.R.C.S.I.

Secretary—E. H. BENNETT, M.D.

*Fibro-lipoma of the Umbilicus simulating Hernia.*—DR. BENNETT said: I have to show this specimen for Dr. Barton, who is not able to be present. It has been sent up to be presented to the Society by Dr. Travers Barton, Surgeon to the Lifford Infirmary, and is of very considerable interest. I will read his communication first:—Hugh G., aged thirty, married, has three children, was admitted into the County Hospital, February 2nd. Seven years ago he noticed a small lump at the side of his navel about the size of a walnut. This increased gradually for two years, when he paid £100 (\$500) to a surgeon in Pennsylvania who had promised to remove it. He put it back (?), but it soon returned, and the surgeon then *left* that State—with his £100. The tumour then gradually increased until six months ago, when it was half its present size; it then grew rapidly, and has now become so large that it prevents him from working. The patient is a strong, middle-sized man; he has always been healthy; bowels always regular; has never had any pain in the tumour. The tumour is of an oval shape, extending across the abdomen from the umbilicus to the left anterior superior spine of the ilium; it is slightly constricted at its base, measuring round the base 23 inches; it is freely movable under the skin and over the abdominal parietes, except over a small surface next to the umbilicus, where it is firmly adherent. The tumour is elastic and rather soft, but on the patient coughing or standing up it becomes hard and tense. At each extremity there is a hard, scirrhus-like mass in the tumour.

14th.—Assisted by Dr. Boyd I removed the tumour by an incision six inches in length, and then, dissecting it out from the surrounding parts, a portion about the size of a florin of the oblique tendon was removed with it, close to the umbilicus. This constituted its sole attachment to the abdominal walls. The wound, which was dressed antiseptically (the operation having been performed under the spray), was brought together by gut ligatures, hardened in chromic acid.

On examination I found the tumour to be composed chiefly of fat and fibrous tissue, portion of which was degenerating into a round-celled sarcoma as seen by microscopic examination.

After the operation the patient suffered acute pain in the wound, which was relieved by one-third of a grain of morphia hypodermically.



15th.—Temperature, morning,  $100.8^{\circ}$ ; pulse, 96.

17th.—Temperature,  $99^{\circ}$ ; pulse, 72; wound dressed; no pus; all healed except for about one inch, which had been left open for drainage; gut sutures came away (i.e., had become soft, and absorbed in three days).

20th.—Patient (up in chair) convalescent; wound almost healed; dressed with ung. zinci.—*March 4, 1882.*

*Diffuse Pulmonary Gangrene.*—DR. FINNY said: This specimen belongs to a class of affections of the lung which are rather rare at all times, while the form presented here is still more rare—namely, diffused gangrene of the right lung. The patient was a labourer, aged forty-seven, who was admitted into the City of Dublin Hospital under my care on the 25th of February. As far as could be gathered from his history, he had been ailing for three months, but was not unable to work until a short time before his admission. He then saw the dispensary doctor, who said his lung was inflamed, and advised him to go to hospital at once. He demurred for two or three days, and then came to hospital on the 25th. His state on admission was almost one of collapse. His pulse was beating 120 in the minute, but could hardly be felt; his temperature was  $97.2^{\circ}$ ; and he suffered from constant diarrhoea. His face was haggard, and he sank down in bed; in fact, he looked more like a dying man than anything else. We kept him alive by ether, turpentine, stimulants, and eggs and beeftea. The following day he made a little rally, and his temperature rose to  $102.2^{\circ}$  in the morning, and his pulse to 118. That was the highest figure his temperature reached during the rest of his stay in hospital. Two days afterwards it fell to  $98^{\circ}$ , and his pulse fell to 80. A physical examination on the day after admission showed that the lower lobe of the right lung was in a state of complete hepatisation; no crepitus was heard in any portion of it. The sputum that day was very slight and but little viscid, and evidently did not come from the consolidated lung. Three days afterwards—namely, on the 1st of March—it was viscid, tolerably copious, and of a prune juice colour. It was not as viscid as in sthenic pneumonia, but more so than in cases of ordinary bronchitis, and it was of a deep red or purple colour. From that symptom and his typhoid state I formed the opinion that he would not recover. An examination of the lung on that day showed that instead of absolute dulness, the anterior part of the lower lobe was tympanitic as far forwards as the nipple—a physical sign noted by Drs. Stokes and Hudson in cases of typhoid pneumonia. A couple of days afterwards diarrhoea, which was kept in check for a time, became the most prominent symptom, but there was no change in the sputum or the other general conditions. On the 4th the sputum began to present a decidedly unpleasant smell, and on the 6th it had a gangrenous odour. It also changed in appearance to a yellowish-green colour, with flocculent



masses, which lay separate, one over the other. The stench was not at first perceptible at a distance, but, on approaching the nasal organ to it, it was almost enough to cause vomiting. I have had experience of a great many bad smells, but I do not think I ever smelled anything like it. His breath on this occasion, and on several subsequent occasions, was not foetid at all times; it was foetid sometimes, in accordance with the observation of Dr. Stokes, who says:—"The stench is not constant, but may disappear more than once; while in some cases the expectoration is foetid, and yet the breath free from odour, and it is often necessary that the patient should be made to cough in order to produce the stench." Messrs. Rilliet and Barthez have noted that out of 16 cases of gangrene of the lung in children, 5 had a gangrenous odour on the breath. On the 6th a cavity had plainly formed in the lung, extending for a considerable distance, and passing from the anterior portion of the lower lobe upwards and backwards under the angle of the scapula. His pulse ran up to 144, and on the following day it was the same. His temperature fell on the 7th to 97°, and he sank into a state of great exhaustion and semicoma. It was necessary on account of the smell to keep the windows constantly open, and for the last two days of his existence we had carbolic acid spray passing across his bed. You see before you the right lung. Its upper lobe is tolerably free from disease. The lower lobe was adherent to the ribs, and has the markings of the ribs on it. It seemed to be tolerably firm, but on cutting into it the whole of the interior was found to consist of this foetid gangrenous matter, and affords a beautiful example of the disease. It is broken down, trabeculated, yellow in colour, and in one or two places contains a quantity of foetid brown stuff. The lower portion of it tore while being taken out. You see that these conditions coincide with the result of the physical examination during life. The upper portion of the lobe is not gangrenous, but seems to be only in a state of congestion, although there is no sharp limitation between the gangrenous and the more healthy portions of the lung. On making an examination of the other organs we discovered nothing which could throw light on the cause of the disease. There appears to be what looks like a cancerous mass (one and a half inches by one-half inch) in the right lobe of the liver, but I cannot positively state that it is so. Since the time of Laënnec gangrene has been divided into local and diffused. Circumscribed gangrene of the lung is not very uncommon, though rare enough; but diffused gangrene is extremely rare. It is due, in my opinion, more to a morbid state of the patient than to either the amount or the suddenness of inflammation. Although Stokes considered that both of those causes might be factors in producing the state in question, he, perhaps, placed more stress on the extent of the inflammation than on the condition of the patient. However, I think that the low typhoid state of this patient was probably the cause of the pneumonia passing into general gangrene,

and the cachexia which he presented, and which may have been due to incipient cancer of the liver, would tend to confirm this view. Drs. Wilks and Moxon state that the general or diffused form of gangrene is commonly preceded by idiopathic pneumonia. They have written as follows on the subject:—"It does sometimes, but very rarely, occur, and generally arises from some constitutional cause or epidemic influence; thus we do not think we have met with a case for a considerable period, although a few years ago we had several such cases, but could not account for the occurrence except on the supposition of some epidemic, as influenza; in these the pneumonia rapidly passed into gangrene. In these cases the dead part passes by invisible stages into the healthy, there being no distinct boundaries between them; the most affected parts being soft, shreddy, and having a horrible odour, while the tissue around is soft and exudes a dirty coloured fluid." Since Dr. Stokes wrote no additional light has been thrown on the diagnosis of the disease. In truth there will not be found any peculiar physical signs to accompany gangrenous abscess of the lung; the only pathognomonic symptoms in addition to the physical signs of consolidation or softening or cavity in the lung will be the extraordinary and disgusting odour of the breath and expectoration, which makes the patient loathsome to himself and all around him.

DR. NIXON remarked that the difficulty was to trace any connexion between the nodule in the liver and the gangrenous conditions of the lung. Even if the nodule should turn out to be cancerous, he did not know that it would account for the gangrenous inflammation of the lung. In many of those cases the gangrene was the result of intense inflammation of the lung structure, leading to what was called by some large lung pneumonia; and in those cases the enlarged portion of the lung was often seen to be indented by the ribs in consequence of the great pressure occasioned by the enlargement. Where such conditions existed it was easy to understand that the compression would obstruct the passage of the blood through the bronchial arteries, and so lead to the death of the lung. Was there any history of intemperance in this case? because Dr. Anstie stated that gangrene was likely to follow inflammation of the lung occurring in drunkards. He explained that the repeated stimulation of the pneumogastric nerves, and the general stimulus of the nervous system in inebriates, being followed by subsequent depression, led to a lower enervation of the lung, and when inflammation followed it was of a low type.

MR. CROLY observed that while he was house surgeon of the City of Dublin Hospital between the years 1858 and 1860 there was an epidemic of typhoid pneumonia. The late Professor Benson lectured on the cases, amongst which were several of gangrene of the lung. The epidemic of pneumonia of the year 1858 was of a typhoid type, and Dr. Todd's

Lectures appeared about that time. He heard it remarked at the time—whether there was anything in it or not he could not say—that in every case of typhoid pneumonia the lung went rapidly into a state of solidification. During the stage in which blisters were applied some of the cases got iodide of potassium, and the question was asked could that treatment have anything to say to the gangrenous condition. In one case a man was dying at the very end of the range of wards, and the smell from him could be perceived at the door of the wards.

DR. DUFFEY asked was there any history of syphilis in Dr. Finny's case, because he thought the conditions of the liver more closely resembled syphiloma than malignant disease?

MR. CROLY asked was carbolic acid administered internally?

The CHAIRMAN observed that according to his experience in a vast number of instances gangrene of the lung occurred in persons who had battered about the world, and had not only drank, but had been badly clothed and fed, and otherwise had bad surroundings. They were, further, persons of such habits that they almost invariably let their chest affections run on until they became this terrible disease. As a general rule the existence of the sputum peculiar to it was a very dangerous sign. The size of the heart of the patient in the present case was remarkable. Dr. Finny had not mentioned the stature of the individual, but the heart seemed to be undersized. It was remarkable that the temperature had under no circumstances exceeded 100°. He had seen this disease become chronic and last for five or six weeks—the unfortunate patient being run down by perspirations, whilst his condition was most trying both to himself and all those surrounding him. He thought the constitution of the individual had more to say to this disease than any other circumstance.

DR. FINNY, in reply, said he believed a great deal more depended on the patient being in a low typhoid state than on either the extent or the amount of the pneumonia. He did not think enlargement of the lung a predisposing cause of this particular disease; if it were, gangrene of the lung would be more common than it was. He did not agree with Dr. Duffey that the nodule in the liver indicated anything syphilitic. He did not lay stress upon the connexion between the nodule and the gangrene, except in so far as the former was an index of that lowering of the constitution which was usually a concomitant of cancer, and which in this case might also have been a factor in predisposing the affection of lung. It was not the cancer that produced the disease of the lung—the low typhoid state of the patient was the principal factor in it. The man was not communicative, and no history was got from him, but there was a letter “D” branded on him, which told the tale that he had been once in the army, and had been discharged.—*March 4, 1882.*

*Irideremia.*—MR. ARTHUR BENSON said: This is the eye of a boy, aged ten, which I enucleated this morning in St. Mark's Ophthalmic Hospital. The only history I could get from his mother was that when he was nine days old he "got the pock (smallpox) which fell into his eyes and blinded him." He was in Cork for some time, and his mother consulted Dr. Macnaughton Jones, who advised enucleation, but she would not consent to it. When he was brought to me the sight was completely gone from the eye. The tension was excessive. The cornea was clear; the lens, which was partly luxated into the anterior chamber, was white and opaque, with calcareous masses in its substance. The iris was completely absent except one small sector above, the apex of which was adherent to the lens capsule. It is probable that the smallpox had very little to do with the eye in question, but the other eye had a leucoma of the cornea with synechia anterior, and partial cataract. The iris in that eye was perfectly formed,  $V = \frac{8}{60}$ . It is probable that the absence of iris was not congenital, but was the result of atrophy due to the pressure of the dislocated lens pushed forward by the high tension in the vitreous; the glaucomatous condition being the result of intra-uterine or infantile irido-chorioiditis. It is not very uncommon to see a considerable degree of atrophy of the iris in such cases; but such complete irideremia as there was in this case I have not often seen. The boy had suffered from some pain at times in the globe, which was very much enlarged, but there was no staphyloma present.—*March 11, 1882.*

*Ovarian Tumour.*—DR. ATTHILL said: The only point of pathological interest in this tumour is that I have been able to trace pretty accurately its rate of growth. It is an ordinary multilocular ovarian tumour. I saw the patient on the 17th of December last. At that time she had an ovarian tumour, which was about the size of a foetal head. It was quite movable, and was distinctly fluctuating. The abdominal walls were thin, and I was able to satisfy myself that it was a multilocular cyst. She had given birth to a premature child in June—that is, six months previously—and I satisfied myself that at that time there was no tumour. We may therefore assume that the growth of the tumour dates from about that time; and in eight and a half months it had grown so much that the woman was of the size of a female at the full period of utero-gestation. I urged her to submit to an operation last December, but she declined to do so. By the 1st of March the tumour had increased to at least fourfold the size it then was. On examination it presented the ordinary symptoms of an ovarian multilocular tumour, there being, in addition to a large cyst in which fluctuation was very distinct, a secondary one, nearly solid, deep down on the left inguinal region. I was not, however, prepared for a congeries of cysts, of which the tumour proved to be made up. On plunging the trocar into the tumour about six quarts of clear fluid were

evacuated. After that I had to tap two or three other cysts, the contents of which were of a very different character, being glairy, and which were emptied with great difficulty. Several other cysts which were not opened then seemed to have been developed subsequently to the original one, which alone existed in December last, the date of my first examination; therefore, the greater portion of the tumour which I now present must have grown within the ten weeks. The exterior of the tumour is very vascular, and the abdominal walls were also wonderfully so. Although there were no symptoms prior to the operation which justified me in believing that there was any amount of serum in the peritoneum, I found that at the end of the operation, when I proceeded to clear the abdomen of fluid, I could not succeed in doing so; the fluid seemed to be secreted almost as fast I sponged it out. I consequently left in a drainage tube. The patient is perfectly well to-day. The tumour is more vascular than usual, and the rapidity of its growth is remarkable.—*March 11, 1882.*

*Exophthalmic Goitre.*—DR. WINDLE said: These are the thyroid body, uterus and ovaries from a case of exophthalmic goitre, which I am enabled to show through the kindness of Dr. Head, under whose care the patient was. For the notes of the clinical history of the case I am indebted to my friend Mr. B. Morgan Dockrell, who was resident in the Adelaide Hospital during the patient's stay in it. Four years before her admission to the Adelaide Hospital the patient suffered from rheumatism; but she was not aware that her heart suffered at the time. Two months before her admission in November she had a severe fit of coughing, which was followed by dyspnoea; and after this she noticed that she had a tumour in her neck which pulsated. Her catamenia had been regular, but scanty. On admission to hospital the following facts were noted:—Her eyes protruded considerably, and she was not able to close her eyelids. She could not lie down at all on account of the dyspnoea, and could only rest by sitting up, propped with pillows. In her neck was a large pulsating tumour. Her cough was very troublesome. The action of her heart was extremely rapid and irregular, occasionally intermitting. It is impossible to explain in any way what the rhythm of the heart was like. There was certainly an apical systolic murmur. She was treated with iron and digitalis, and her condition improved considerably. She then caught cold, and exhibited some symptoms of catarrhal pneumonia; but the prominence of her eyes having decreased, and the action of the heart being more regular, she went out. After an absence from hospital of two months she came back; and on the evening of the day on which she came in she went to sleep, and then suddenly woke up with a scream, and died in ten minutes in a state of collapse. When in hospital for the first time an examination of her eyes was made by Dr. Beatty; he considered that the discs and arteries were perfectly normal, but that the

veins were, perhaps, a little tortuous. There was no pulsation visible in the retinal vessels. I made a *post mortem* examination twenty hours after death. The eyes were half open, and it was found impossible to close the eyelids. There was a quantity of grumous black substance exuding from the mouth. On external examination the thyroid body showed very much enlargement on both sides. The right side was somewhat rhomboidal in shape, and measured from the anterior superior to the posterior inferior angle 5·5 centimetres, and from the posterior superior to the anterior inferior angle 6·5 centimetres. The left side was more triangular in appearance. The anterior line measured 5·5 centimetres, and the posterior line 4·5 centimetres, and the base 4·0 centimetres. There was slight venous radiation on both sides of the neck. The mammae were extremely small. The body was well nourished. On dissecting the neck the glands on the left side were found to be enlarged. On both sides the sternohyoid and sternothyroid muscles were very much stretched, and were very thin, so much so as to be semi-transparent. I made a careful dissection of the cervical sympathetic and its connexions on both sides but found no lesion discoverable by the naked eye in connexion with them. We were not allowed to open the skull; but I enucleated the eyes and subsequently replaced them, and, as far as possible, examined the interior of the orbits with my finger, and it appeared to me that there was more fat in them than was natural. I do not, however, wish to lay too much emphasis on this point, as it is difficult to judge of the exact amount of fat present when a dissection has not been made from within the cranium. On opening the cavity of the thorax nothing abnormal was seen; but on slitting into the pericardium I found it extensively adherent to the heart, and the heart itself was somewhat hypertrophied and dilated; the aortic and pulmonary valves were competent. The interior of the right auricle showed a number of yellow patches, and in the left auricle also were found some similar patches. The mitral orifice was larger than was normal, and there were a number of nodules on its anterior flap. The lungs presented only some patches of consolidation. The ovaries were very much harder than is normal. I took them to Mr. Abraham, who made a microscopical section of one, which he says is extensively degenerated, but he has not as yet determined the nature of the degeneration. The thyroid body he examined, and he says it is simply hypertrophied, without any particular degeneration. I found it very hard to determine the cause of death. She said she had not slept properly for the two months previous to her second admission; and I thought death might have been due to nervous exhaustion. There were no lesions in the parts of the body that we opened which would account for death, and as we were not permitted to open the skull it is impossible to be absolutely certain of the cause of death. She had fits of dyspnœa, but her death was not preceded by any particular dyspnœa.



DR. WALTER SMITH.—In cases of enlarged thyroid death sometimes results from the yielding of the trachea.

DR. WINDLE.—I did not notice any lesion of that sort in the dissection which I made.—*March 18, 1882.*

*Medullary Sarcoma of the Eye.*—MR. ORMSBY said: This is an interesting specimen of medullary sarcoma, which was removed by me on Wednesday morning from the right orbit of a child, aged three years. The history of the case is as follows:—

P. C., aged three years, from Ardfert, County Kerry, was admitted to the Meath Hospital on the 10th of March, 1882, under my care, suffering from a large tumour, about three inches long, projecting outwards from the right orbit. The tumour, apparently, had its origin in an attack of catarrhal ophthalmia about a week before last Christmas. From that time the eye swelled and the tumour grew rapidly, destroying the sight of the eye in a very short time. So quickly did the tumour grow, that the increase in size was noticed from day to day. He never seemed to suffer much pain, but wasted rapidly, having previously been very healthy and robust.

On his admission to hospital the child was weak, pale, and debilitated. The tumour was red and had a most malignant aspect; when touched or rubbed roughly it bled profusely from its summit; the bleeding had to be restrained by the application of styptics.

I performed the operation on the 15th instant, having determined to extirpate the growth together with the whole contents of the affected orbit. I began by cutting the superficial structures with a curved blunt-pointed scissors, so as to separate the tumour from the upper and lower lids, to which it was found to be intimately attached. Having done this, I divided the deeper structures, and completely cleared out the whole contents of the orbit. Portions of the tumour broke down by the pressure of the finger, and some smart hæmorrhage occurred. The optic nerve appeared to be attached to the posterior part of the tumour, which I ligatured and divided in front of the ligature. I then gently plugged the orbit with strips of lint steeped in cold water. After the growth was removed it was remarkable how little hæmorrhage followed; and up to the present the child has been doing very well. I consider the tumour is a malignant one, belonging to that form of disease usually called *Medullary Sarcoma*, or *Fungus Hæmatodes*. I am afraid the tumour may return; but still I thought it my duty to give the child a chance by removing this very remarkable and, in my opinion, malignant growth. Mr. Benson, Surgeon to St. Mark's Ophthalmic Hospital, also saw the case. I also present for inspection two photographs, which were taken before the tumour was removed, and they depict very well the size and appearance this very unsightly growth gave to the little patient.



MR. BENSON remarked that a curious feature in the case seemed to be the complete adhesion that existed between the lids and the globe of the eye. It was continuous with the surface of the cornea, which was quite carneous. The tumour began as an intraocular one.—*March 18, 1882.*

*Clonic Torticollis.*—MR. ORMSBY exhibited a young man, aged twenty-three years, who suffered from a spasmodic contraction of the muscles of the right side of the neck. His head was continually in motion owing to the action of these muscles, and the only rest he got was when asleep. The affection was described differently in the various works on nervous diseases. *Clonic Torticollis*, perhaps, would correctly designate the disease the young man suffered from.

As the patient stood, his head appeared to be drawn forcibly to the right side in rapid, spasmodic jerks; and if the head was controlled in any way, by holding it with the hands, it seemed to increase the force of the spasm, and gave the patient very great pain. The patient is anxious and dejected, and seems greatly disappointed that nothing can be done to keep his head quiet. He gave the following history:—

F. F., aged twenty-three years, a farm labourer, from Blessington, County Wicklow, was admitted to the Meath Hospital on March 2nd, 1882, under Mr. Ormsby's care, suffering from choreiform movement of the muscles of the right side of the neck. The movement was almost continuous, and became greatly aggravated when he stood up, or turned suddenly round, or was excited by the presence of strangers.

Those aggravated attacks caused some pain in the neck, and the patient feared them greatly, holding his head with both hands to try to restrain the movement.

He slept quietly, but the spasms recommenced immediately when he awakened. He was an only son; his father and mother were both alive and healthy. He was always nervous. About five or six years ago he noticed that the nervousness greatly increased, especially when among strangers. Six years ago he was knocked down by a blow with a sweeping-brush on his head, but did not suffer any inconvenience. He had frequently suffered from lightness of the head, with flashes of light before the eyes, or sometimes dimness of vision.

He suffered from epistaxis from the right nostril, "on and off," for about two years, but that had entirely ceased for the last twelve months. When coming home from a fair, about a year and a half ago, "hearty," but not "drunk," he got a blow of a stone on his head near the posterior superior angle of the left parietal bone. His head was slightly cut; he suffered very little inconvenience from this, getting it dressed only once. He had suffered from nocturnal emissions for the past two years; they had become somewhat more frequent of late. He acknowledged to his having masturbated "once" or "twice." He dated

his present illness from March, 1881. The symptoms developed very slowly. For some time he had only occasional "slight tremblings" of the neck, with dimness of vision. He was never really bad until January, 1882, when, coming home from a fair, having partaken freely of stimulants while in the market, he then got this spasmodic action of the muscles, which has continued more or less ever since.

He was seen by Dr. Bleakley, of Blessington, who tried various remedies with him, which did not seem to improve his condition in any way—such as blistering on the back of the neck, galvanism, sedatives. He after some time was sent to Mr. Ormsby, who examined him carefully. He had, on admission, a very pasty, pale appearance in his face; his voice was weak; his pupils were widely dilated; and he had the appearance of being a masturbator; but, as mentioned before, he confessed to have only been guilty of this sin on only one or two occasions.

March 4th, 1882.—He was ordered to take, three times a day, the following draught:—

℞ Potassii bromidi, gr. 22.  
Spt. chloroform, ℥. xv.  
Tinct. sumbul, ℥. xxx.  
Aquæ ad ʒi.

Fiat haustus.

M.

March 5th.—He expressed himself much better. This morning the movement of head was not nearly so violent, and he said that it had not commenced for two or three minutes after wakening. In the evening, on being awakened and made to sit up, the movement did not come on for five or six minutes.

March 6th.—Much the same. He feels easier to-day sitting up than lying down. Each day appeared to be very much the same as regards his condition.

March 13th.—He was still the same; muscular contraction in the neck very violent. He was then ordered to take the following draught three times a day:—

℞ Bromidi ammoniæ, gr. 22.  
Iodidi potassii, gr. 15.  
Tinct. sumbul, ℥. lx.  
Aquæ chloroformi ad ʒi.

Fiat haustus.

M.

March 14th.—The movement did not commence this morning for nearly half an hour, and the sterno-mastoid muscle was not so rigid.

March 16th.—Was then ordered a pill containing 2 grains of valerianate of zinc; one to be taken three times a day.

DR. FINNY.—Was electricity tried?

MR. ORMSBY.—It was tried once in the country by Dr. Bleakley, and it made him considerably worse.

The PRESIDENT.—Had the medical treatment any effect?

MR. ORMSBY said it did not seem to do the patient the slightest good. They were giving him 15 grains of bromide of potassium and 5 grains valerianate of zinc three times a day.

The PRESIDENT said he remembered reading a paper in the *London Medical Record*, which stated that most satisfactory results were obtained by stretching the spinal accessory nerve.—*March 18, 1882.*

*Gangrene of the Lung.*—DR. FINNY said: This day week I laid before the Society an example of diffuse gangrene of the lung in a patient, aged forty-seven; to-day I have to show another example of that disease occurring in a man, aged twenty-two, who was admitted into my hospital on the 8th of this month. The history of his case was taken by Mr. Mulliver. He had been drinking rather freely for a fortnight before he became ill, but never showed any symptoms of *delirium tremens*, nor was he obliged to discontinue his work. He had had a cough during the winter. His father died of inflammation of the lungs, and all the members of his family were liable to lung affections. Six days before his admission he had a cough and some slight expectoration, which, he states, became darker on two or three occasions at intervals. When admitted his appearance was not that of a man who was soon likely to end his days. He was a stout, well-built young man, well covered with flesh and muscle; but his face had a haggard anxious look, and his forehead was frequently covered with perspiration, and especially so after an attack of coughing. His tongue trembled on protrusion, and was very clean and healthy looking. The decubitus was dorsal, and he disliked very much being stirred. He complained of pain of a stitching character under the left breast; and he said that if he sat up in bed, or turned on his right side, or was moved much, he would feel something bubbling in his left side, and that he would have to cough. The cough came in fits, during which the patient was nervous, excited, and breathless. His expectoration on the day of his admission, and for two days afterwards, was only the ordinary slight white phlegm that we are accustomed to see in pleurisy. It had no bad smell on the day of his admission, nor for some days afterwards; but when I examined him a bad smell caught my attention. At first, however, I thought it might have proceeded from a neighbouring patient, as it was more like the smell from a night chair than anything else. It came and went; I tried his breath, but it was not on it. It induced me, however, to make the remark, that I trusted we had not another case of gangrene of the lungs. His pulse on admission was 108 in the evening, and his temperature 101°. He had got no sleep for some days; but with the exception of that, and

the general symptoms of nervousness I have mentioned, and which were due, in some measure, to his drinking habits, there was nothing remarkable about him. His pulse was not feeble, and there were no signs of great prostration. On examining his chest I found a very well-marked friction sound below the left nipple, with both expiration and inspiration, while over the same place the percussion note was tympanitically clear. It seemed as if this high note was due to the stomach, which was full of air, and seemed to pass well under the left hypochondrium. No opinion, consequently, was given as to the cause of the tympany until the bowels had been cleared out by an aperient. On this day the left side of the thorax was strapped, from which he derived considerable comfort; the pain in the side was relieved, and he was able to move himself about without distress. On the 11th—three days after his admission—his temperature in the morning was  $102^{\circ}$ , and in the evening,  $103^{\circ}$ ; and his pulse varied morning and evening between 100 and 108. The sputum became more copious and extremely foetid, so that it was most unpleasant to stand in front of him as he coughed, or to hold the spitting cup near one. From that time until the 15th the smell continued to be extremely bad, so much so that you could perceive it a long way off when you came into the ward—further off than in the case of the other patient whose case I detailed lately—and it was necessary to resort to various means in order to keep it down. He himself said that the stuff he coughed up had a horrible taste; and he disliked coughing partly on that account. His expectoration was generally between five and seven ounces in the twenty-four hours—ten ounces being the greatest quantity. It was frothy, and on removing the froth the part underneath was like porter. Upon a physical examination, made two days before his death, we found that dulness extended from three fingers breadth below the angle of the scapula behind, and the whole way down along the spine obliquely to the eighth rib, and to the posterior fold of the left axilla. There it changed its character and became tympanitic, exactly as it was on admission, only more extensive, for the tympanitic area extended between the two folds of the axilla, and stopped two inches outside the nipple. The respiration over the dull part was somewhat tubular; there was but little bronchophony, and vocal fremitus was not increased; there was not, at any time, in this region characteristic pneumonic crepitus. At the edge of the dull portion there was a distinct soft crepitus, while over the tympanitic and clear portion a friction sound could be developed at will by deep inspiration. A cavernous sound was heard over this clear region, but it did not approach amphoric respiration. It was on making the patient cough and take full breaths that we heard the cavernous ring. The breathing was feeble all over. His urine was examined at this period, and was found to contain a very small quantity of albumen, which increased somewhat during the last few days of his life. The specific

gravity of the urine was 1027, and on the addition of nitric acid it threw down a copious deposit of nitrate of urea, but it was free from bile or sugar. The day before his death his temperature was not as high as it had been, but the smell was most abominable; I do not know any word to express it; it was not cadaveric or fæcal, it was most like that which proceeds from the opened intestines of a subject sometime dead.

On the morning of the 16th, which was the day of his death, there was a remarkable change as regarded the sputum. No smell could be perceived near him; you could go quite up to him, and get him to cough without perceiving any smell. The sputum itself was examined, and was found to have no smell. Whether this was due to the treatment which had been resorted to, of chlorinated soda and the inhalation of carbolic acid and iodine, or was from some other cause, I do not know. There was also an equally marked change in the physical signs. On the back of the lung dulness had ceased between the tenth and twelfth ribs, and there was a clear note on percussion. The tympanitic region had become less tympanitic. The patient had not coughed up so much as usual that morning, and I presume the cause of the diminution of the tympany in the axilla was due to the amount of fluid which had accumulated in the cavity. The patient complained a good deal of pain when percussed over the region of the clear note boundary at the tenth rib. He said that percussing him sharply there caused the nasty stuff to come up. In the afternoon of that day, without any exciting cause, he began to spit blood, and at half-past three o'clock an ounce and a half of blood was coughed up. He became greatly exhausted, and was almost pulseless at the wrist; and then he rallied, and his pulse was 150 at the wrist, his temperature falling to 99°. His chest in front became more dull than before. He rallied sufficiently to see his clergyman, observe his own case, and take his chart, and remarked "that his temperature was going down." In three hours afterwards he was dead. Bleeding, I presume, which had been temporarily arrested, had gone on into the cavity, for his coughing and expectoration had almost ceased four hours before death. I made a *post mortem* twelve hours after his death. The body was well nourished, and the *rigor mortis* and *post mortem* staining well pronounced, and the body was not very blanched. Percussion over the whole of the left side of the chest was highly tympanitic, and showed that air had made its way into the cavity of the pleura. On cutting through the chest wall, at the division of the ribs, air which had no bad smell whistled out. We found the right lung normal and healthy. The anterior portion of the lower lobe of the left lung was adherent to the ribs at the sixth rib, corresponding to the place where the friction sound was heard. It seemed to form a wall of pulmonary tissue, which lay between two seas of blood. One side of the pleural cavity was full of dark, bloody matter, and between the pericardium and the heart there

was another collection of blood. Both communicated with each other. The fibrinous exudation was extremely thick, though soft, showing that the pleurisy was of recent date. The lung was taken out without much difficulty, except for the smell, which nearly made all present sick. There is a large cavity in the back of the lower part of the lobe, which is stained with the blood from the loss of which the patient died. The whole lower lobe of the lung is in a state of consolidation, and the cavity extends through it quite to the pleura in the region where the tympanitic note was last heard. The cavity is the centre of a pneumonic process all round it, which was rapidly going into gangrene. The case affords a good example of rotten condition of the middle of the lung. As the case is an example of that rare disease of general gangrene of the lung which had been cut short by hæmorrhage I thought it well worth exhibiting to the Society. There was nothing remarkable in the kidneys, except some cysts. They are rather larger than is natural, but I do not think they had anything more than a slight connexion with the disease which is before you. The heart was small, but perfectly healthy, and firmly contracted. The liver was slightly enlarged, but not the subject of degeneration to any extent.—*March 18, 1882.*

*Mediastinal Sarcoma.*—DR. J. W. MOORE said: These parts were removed from the body of a female servant, aged fifty-five years, who was admitted into the Meath Hospital on the evening of the 15th of March. I had not an opportunity of seeing her alive, but my clinical clerk, Mr. Reardon, saw her shortly after her admission, and the following are the results of his physical examination :—

She had been complaining for the past four months of pains in her arms, chest, and limbs, which were getting worse every day. On inspection, the right side of the chest was almost motionless. The percussion note was exceedingly dull, and, on auscultation, one or two loud bubbling râles were the only evidence of respiratory movement. The left lung appeared to have taken on compensatory action, and was doing its work well. The right arm had become oedematous two or three days previously, and was cold, but had a distinct radial pulse. The lower extremities and the left arm were normal in size and warmth. The head was healthy, and her mental faculties were unimpaired. Her state did not seem urgent; but at ten o'clock at night a change for the worse set in, and she died at seven o'clock next morning.

At the autopsy, on cutting through the right costal cartilages, a new growth of a brownish-yellow colour, having the appearance of hyaline cartilage, was noticed between and around them, extending from the second rib to the level of the diaphragm. This mass is thicker below, where it forms an ill-defined tumour one inch in thickness. The new growth passes backwards to the spine along the diaphragm, principally



on the right side, which is thickened in consequence. Along the spine it extends upwards to the third dorsal vertebra, and downwards to the fourth lumbar. The tumour is intimately adherent to the spine. The right lung is completely collapsed and absolutely airless; it is covered by a greatly-thickened pleura, in which there are adhesions of very old standing. The left lung is congested, and in a condition, I presume, of collateral hyperæmia, and the pleura on that side is considerably thickened. The heart is apparently healthy. The thoracic aorta and the abdominal aorta are surrounded by the growth, in which they have formed a tunnel or canal. The upper part of the growth is close to the trachea, and it surrounds the innominate artery, although it does not seem to have occluded it. The lymphatic glands behind the liver are much enlarged. The liver itself presents appearances of perihepatitis of old standing, and the left lobe is considerably atrophied, and in a state of cirrhosis. A constriction across the liver is probably the result of tight lacing.—*March 18, 1882.*

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#### THE GEOGRAPHICAL AND CLIMATIC RELATIONS OF PNEUMONIA.

FROM a valuable paper on this subject, by Dr. E. Sanders, published in the *American Journal of the Medical Sciences* for July, 1882, we extract the following conclusions:—1. The relations of pneumonia to altitude are definite and marked; with increase in elevation above the level of the sea, there is a steady diminution in the death-rate of pneumonia. 2. The mean annual rainfall of a place bears no positive relation to pneumonia. 3. The higher the death-rate of a place from all causes, the greater the mortality from pneumonia. 4. The larger the actual population of a locality, the greater its relative death-rate from pneumonia. 5. There is a direct, positive, and unequivocal relation between the mean annual temperature of a place and its death-rate from pneumonia, the rule being that a high mortality from the disease coincides with a high mean annual temperature. 6. Proximity to large bodies of water, such as lakes, inland seas, or the ocean, exerts no appreciable influence on the pneumonia-rate. 7. For North America, pneumonia increases in frequency as we pass from east to west; for Europe as we advance from west to east, the rate of increase being very nearly twice as great in the case of the latter as in that of the former. 8. Pneumonia, all other things being equal, increases in frequency the further we advance from the polar regions towards the tropics; this, however, only up to a certain parallel, beyond which it seems to become less and less commonly met with, until at or near the equator, where it apparently disappears.



# TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

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SESSION 1881-82.

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President—PROFESSOR CUMING, M.D.  
Hon. Secretary—WILLIAM WHITLA, M.D.

*Tuesday, May 2, 1882.*

The PRESIDENT in the Chair.

*Recruiting.* By DR. M'FARLAND, Brigade-Surgeon, A.M.D.

THE subject of Recruiting is not one of much importance to the medical profession in Belfast, as there is a military depôt here where recruits are at once seen and examined by a military medical officer. I selected the subject for the last meeting of the Ulster Medical Society, as I thought some of our brethren from other towns would be present, who frequently have to examine recruits, and to whom the following hints might be of use, or, at any rate, would be calculated to put them on a good understanding with their military brethren.

Very frequently recruits are passed in country towns by civilian practitioners, sent up to the depôt for approval, and there rejected as unfit for the service. Now, when this happens repeatedly, the civil doctor feels his dignity hurt, and sometimes imagines there is an animus on the part of the military surgeon. It is no unusual thing to see him come up to the depôt to ask the meaning of all these rejections. The truth is that the military surgeon is not actuated by any animus, nor has he any feeling of dignity on the subject, but simply has to protect himself from an official scrape.

The rule of the service is that the approving medical officer must be a military surgeon on full pay. This does not mean that he is more competent than a civil doctor, or than a military surgeon like myself on retired pay; but it is that the authorities can call him to account if he passes bad recruits in a way that cannot be done to us. He may be removed from his appointment, declared to be inefficient, or punished in various ways.

Once a recruit comes before a military medical officer for approval, that officer is solely responsible for him. Whatever correspondence takes place afterwards is with this military surgeon. If a man is found to be under height or under chest measurement on joining his regiment.

the officer commanding is bound to report the fact to the Commander-in-Chief, who then calls upon the officer commanding the *depôt* where the recruit was approved for an explanation why the recruit was passed into the service under the regulation size? The officer commanding the *depôt* then calls on the approving surgeon, who has then to defend his position as best he can. If a recruit is declared unfit from other causes—say defective sight, not being able to see the target at the required distance—a medical board is ordered to assemble, and if the board declares the recruit to be unfit for the service, the military surgeon is called upon to explain why he approved of a recruit who was afterwards declared to be unfit for the service by a board of medical officers—a very difficult and unpleasant question to answer.

You will see from these remarks that it is of vital importance to a military surgeon that his recruits are not objected to. Written rules are laid down by Government on the subject; but like an operation in surgery, it is one thing to know how it is done, but another thing to do it practically. By following the rules I will now give there is little chance of recruits being objected to on joining their regiments.

There are two *sine quâ non* rules which must be observed. One is, the recruit must be examined perfectly naked, and the other that the surgeon make the examination himself. I will illustrate the first rule by one case that occurred to me out of many of the sort. I found a young soldier in the ranks of a regiment I had charge of lame and unable to march. He had bunions and deformed toes. On questioning him as to how he passed the doctor, he told me the doctor was in a hurry, and that he was stripped all to his stockings! No doubt the recruiting sergeant made him keep them on!! It is most essential that a line soldier should have good feet. There is just one pattern boot worn by the infantry; it is called the ammunition; it is the best worn by soldiers of any European army, but a man must have good feet to wear it. They are, of course, made of different sizes, and are used in all climates. A soldier may be served out with them when on active service, and, of course, must be able to wear them at once. The man I speak of could not wear the ammunition boot at all. Secondly. The approving surgeon must examine the recruit himself, as otherwise he may be imposed upon. In any case he must be in a position to say, if the recruit should be objected to, that he examined the man, and found so and so. It will not do to say he saw the man examined, or was present.

In examining a recruit, there are two men the doctor must beware of. One is the recruiting sergeant, and the other the recruit himself. The recruit will make the most of himself when he wants to enlist—stretch himself up when measured for height, try to swell himself out when measured for chest; but, by-and-by, when he joins his regiment, and begins to repent of the step he has taken, he will make the least of

himself. Commanding officers like to have big men in their regiments, and are only too glad to report if recruits are under the standard measurements. Directly the approving military surgeon signs a recruit's attestation paper passing him, the recruiting sergeant gets one pound in cash. These fellows are as wily as foxes; they know that a recruit is taller in the morning than evening, so if he is a little under size they will keep a lad in bed a couple of days, and bring him straight over to be examined, so as to gain perhaps the required half inch. A recruit with varicose veins to any extent is ineligible. A recruiting sergeant will bandage him up to the last minute. Recruits must be eighteen to twenty-five years of age; they will smarten up a man of thirty, make him shave off his whiskers, get his hair cut short, assume a juvenile air, and swear he is only twenty-five. The surgeon is responsible for a recruit's apparent age.

The examination of a recruit and filling up of his attestation paper takes seven or eight minutes, and should be done in the following way:—First, take a good look at him, stripped; if he has inveterate skin disease, marks of scrofula, syphilis, bad varicose veins, rupture, adherent cicatrix, or deformity, reject him. If not measure him for height. This is done by making him stand on the measuring standard; put one end of a tape measure under his heels, keep a steady pull on the other end. If he rises on to his toes the tape will come from under his heels, and you will know it. If he has a great thatch of hair on the top of his head take off a quarter of an inch for it; bring the horizontal beam right down on the top of his head, and read off the measure from the index.

Next take the chest measurements. Make the recruit put his hands over his head, put the measuring tape on the inferior angles of the two scapulæ behind, then make him slowly let down his arms and count ten, and at the same time the surgeon draws the tape together across the chest when the recruit counts ten. This is the Government rule, but I have found from experiments that a man can count ten without any diminution of the chest; but make him count twenty, and, at fifteen or sixteen, he will catch his breath—that is the time to draw the tape together, and you will get his true measurements. The lower edge of the tape should rest on his nipples in front.

Next for the limbs. Make him kick out with both legs alternately, hop up and down the room on either feet, springing lightly on the toes; bend the ankle-joints and toes of each foot alternately, kneel down on one knee, up again, then on the other, then on both, springing up upright; then turn round, separate the legs, stoop and touch the ground with both hands, the knees being straight. In this position it will be seen if the recruit has piles, or fistula, &c.; rise up, turn round, stretch the arms up with hands over the head, cough forcibly. Examine in this

position for hernia or weak inguinal rings, also for varicocele—varicocele to any extent with dependent testicle is a cause for rejection. This completes the examination of lower extremities. Examination of upper extremities is done by making the recruit swing round one arm and then the other, to test shoulder-joints; then strike out both fists, to test elbow-joints; then press elbows to sides, with forearms flexed, and rotate forearms; then bend wrists, twist them round and round, open and shut fingers, to see if any are stiff or deformed; flex thumbs on palms of hands, and extend alternately; there must be perfect use of fingers and thumbs. This completes examination of upper extremities.

The heart and lungs are now to be carefully examined with the stethoscope to ascertain their soundness; any abnormality is cause for rejection. The recruit is to be asked if he has ever had fits of any kind. Mouth is to be carefully examined to ascertain if he has a fair set of teeth, throat free from ulceration, palate sound, &c. The ears are to be carefully examined, also the cranium and the eyes.

The test dots, War Office Form 1,233, are to be used for examining the sight. The recruit must be able to tell the number of dots at the required distance (15 feet) with each eye, one being covered while the other is being examined. This part of the recruit's examination must be performed with the greatest care and circumspection; it is of the utmost importance. Of no less importance is the next part of the examination—which is conversation with the recruit. The surgeon having placed the recruit at a distance holds conversation in a low tone of voice, to test his hearing powers by the recruit's answering; the surgeon will observe if there is any hesitation in his speech, and if his intellect is good. The recruit is also to call out in a loud voice "Who comes there?" It is of the utmost importance to ascertain the mental state of the recruit; the only guide, most likely, the surgeon will have will be the appearance of the recruit, and his answers to questions.

This, gentlemen, is the ordeal to which any approving military surgeon will subject a recruit; and civil practitioners may rest assured that unless the recruit can satisfactorily pass through this ordeal he will be declared unfit for the service.

#### *Pseudo-hypertrophic Muscular Paralysis.*

DR. M'FARLAND at the same time showed two interesting cases of pseudo-hypertrophic muscular paralysis occurring in a brother and sister. Both were very typical cases. The father of the children had been confined in an asylum, but was now employed as a porter. He seemed of very inferior intelligence, and very reticent, or else very stupid. This relationship with a father of unsound mind was considered to be a point of great importance in the case.

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, August 12, 1882.*

Towns	Population in 1881 (Unrevised)	Births Registered	DEATHS REGISTERED			DEATHS FROM ZYMOTIC DISEASES							Deaths from Phthisis	Annual Rate of Mortality per 1,000 Inhabitants
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		
Dublin, -	348,293	767	595	124	141	-	5	1	1	1	16	27	89	22.2
Belfast, -	207,671	517	308	64	36	2	11	9	-	7	7	32	43	19.3
Cork, -	78,861	170	109	15	19	-	3	-	-	1	2	5	21	18.1
Limerick, -	38,600	99	59	10	18	-	-	2	-	-	-	2	9	19.9
Derry, -	28,947	45	47	8	11	-	6	-	-	-	-	3	3	21.1
Waterford, -	22,401	57	30	4	5	-	-	-	-	-	-	1	1	17.4
Newry, -	14,782	26	19	4	6	-	-	-	1	-	1	1	2	16.7
Galway, -	14,621	31	25	4	10	-	-	-	-	-	-	1	3	22.2

### Remarks.

The mortality was generally moderate or low—a continuance of cool, showery weather to the end of July having had its usual favourable effect on the Public Health. It will be noted from the foregoing Table that, although the general death-rate was nearly 3 per 1,000 lower in Belfast than it was in Dublin, yet zymotic diseases were relatively much more fatal in the capital of Ulster than in the metropolis. In fact, the rate of mortality represented by the deaths from the seven principal zymotics was only 1.9 per 1,000 of the population annually in Dublin, while it was 4.1 per 1,000 in Belfast. The death-rate of the four weeks was 20.0 per 1,000 in twenty-eight large English towns (including London, in which it was only 18.5), 20.3 in the sixteen principal town-districts of Ireland, 18.3 in Edinburgh, and 23.1 in Glasgow. As regards Dublin, if we except the deaths (16 in number) of persons admitted into public institutions from localities outside the Registration District, the death-rate in that district becomes 21.6 per 1,000, while that within the municipal boundary is as high as 24.8.

In the Dublin Registration District 595 deaths were registered, compared with 542 and 681 in the two preceding periods respectively. The increased mortality occurred specially at the extremes of life — the deaths of children under one year having risen from 84 to 124; those of persons aged 60 years and upwards having likewise risen, although not in the same degree, from 122 to 141. To zymotic affections 72 deaths were attributed against only 59 in the previous four weeks. The average number of zymotic deaths in the corresponding period of the preceding ten years was, however, 127·3. The deaths from measles fell from 9 to 5; those from fever rose from 13 to 16; those from diarrhoea (including dysentery) rose from 19 to 27. Of the 16 deaths ascribed to fever only 1 was caused by typhus, no less than 11 were referred to typhoid, and 4 were returned as due to “fever,” the type being ill-defined.

In Belfast, smallpox again caused 2 deaths, and there was a decided increase in the number of deaths from measles, scarlet fever, whooping-cough, and diarrhoea. Fever decreased considerably, the fatal cases being only 7 against 18 in the previous four weeks. The prevalence and fatality of summer diarrhoea in Belfast calls for remark. The deaths were 32, or more than double those registered (15) in the preceding period. Measles was still fatal, though in a less degree, in Londonderry. Diarrhoeal diseases caused 72 deaths in the eight principal towns, compared with 50 and 29 respectively in the two most recent four-week periods.

Pulmonary consumption (phthisis) showed a lessened fatality in Belfast, but continued to contribute largely to the death-rate in several of the other towns. The deaths from this disease were 89 in Dublin, 43 in Belfast, and 21 in Cork. Respiratory affections proved fatal in 70 cases in Dublin, against a ten years’ average of 78·0 deaths. Bronchitis caused 47 of the 70 deaths (average=47·1), and pneumonia 13 (average=14·1). The decreasing fatality of this last-named disease is noteworthy. Hitherto, in the present year, pneumonia has been much more destructive to life than usual.

On Saturday, August 12, the number of patients suffering from the chief epidemic diseases under treatment in the leading Dublin hospitals were—smallpox, 0; measles, 2; scarlet fever, 5; typhus, 31; typhoid, 11; pneumonia, 6.

The mean temperature of the four weeks was 59·2° in Dublin, 61·4° at Greenwich, and 57·9° in Edinburgh.

## METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,  
for the Month of July, 1882.*

Mean Height of Barometer,	-	-	-	29·755 inches.
Maximal Height of Barometer (at 9 p.m. of 26th),	-			30·388 „
Minimal Height of Barometer (at 4 30 p.m. of 6th),				29·108 „
Mean Dry-bulb Temperature,	-	-	-	59·0°.
Mean Wet-bulb Temperature,	-	-	-	55·4°.
Mean Dew-point Temperature,	-	-	-	52·2°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-			·392 inch.
Mean Humidity,	-	-	-	78·6 per cent.
Highest Temperature in Shade (on 3rd),	-	-		70·0°.
Lowest Temperature in Shade (on 26th),	-	-		47·9°.
Lowest Temperature on Grass (Radiation) (on 26th),				43·4°.
Mean Amount of Cloud,	-	-	-	68·6 per cent.
Rainfall (on 25 days),	-	-	-	3·722 inches.
Greatest Daily Rainfall (on 1st),	-	-	-	·439 inch.
General Directions of Wind,	-	-	-	S.W., W.

*Remarks.*

A changeable, cool, breezy, showery month—the wind almost constantly from points between S.S.W. and W.N.W., and thunder being of frequent occurrence. The rainfall was considerably in excess of the average (3·722 inches, compared with 2·543 inches), and the rainy days were 25, against an average for July of 16·4. Most of the rain fell by day in the form of heavy showers, and in this respect the weather of the month was semi-tropical in character—fine, often bright mornings were followed by the formation of massive cumulus clouds in the forenoon, which precipitated themselves as drenching thunder-showers later in the day, the evenings again becoming fine and frequently clear and cool. During the greater part of the month atmospheric depressions travelled north-eastwards along the western coasts of Ireland, Scotland, and Norway, while the barometer was relatively high over Spain, France, and Italy. Hence the strong S.W. winds and changeable weather already described. On Tuesday, the 11th, a well-marked depression, which at 8 a.m. lay between Waterford and Cornwall, travelled eastwards across the South of England, where very heavy rains occurred. Near Dublin, which was of course north of the storm-centre, the sky was on this day almost overcast with a canopy of cirro-stratus cloud, and the wind backed from S.E., through E., N.E., and N. to N.W., with only a few drops of rain at times. In the third week some very warm weather was experienced in Sweden, even as far north as latitude 66°; the thermometer rose to 86° F. at Stockholm and to 81° F.



at Hernösand, at a time when the highest reading in Dublin was only 67° F. Towards the close of the month a change in the distribution of pressure in the W. and N.W. of Europe was noticed, which promised drier and finer weather. The barometer gave way over Sweden and the Baltic, and rose off the S. of Ireland. Hence the wind tended to draw into N.W. For several days the higher clouds were seen to be travelling constantly from this point, even when the surface current was strong from W. or W.S.W. In Dublin the mean temperature of the month was 1·3° below the average of the previous seventeen years. Thunderstorms occurred on the 1st and 6th, the latter being particularly severe about six to eight miles N.W. of the city of Dublin. Thunder was also heard on the 7th, 8th, 17th, 19th, 23rd, and 24th. On the last-named day hail fell heavily in Dublin at 12 15 and 2 p.m. Solar halos were observed on the 2nd, 3rd, and 26th.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### THE TREATMENT OF HÆMORRHOIDS BY INJECTIONS OF CARBOLIC ACID.

DR. CHARLES B. KELSEY, Surgeon to St. Paul's Infirmary for Diseases of the Rectum, New York, recently opened a discussion on the treatment of hæmorrhoids, at a meeting of the New York Clinical Society, by reading a paper on the treatment by injections of carbolic acid. The paper, which appears in the August number of the *New York Medical Journal and Obstetrical Review*, opens with condensed histories of a number of cases, after which he remarks that, beginning this plan of treatment without very much confidence in it, and with the fear of causing great pain, and, perhaps, dangerous sloughing, constantly before him, the method is constantly growing in favour with him, and the more he practices it the more confidence he gains in it. With solutions of proper strength the danger of causing sloughing of the tumours is very slight. There are no objections to this method which do not apply equally to others. He has once seen considerable ulceration result from it in the hands of another; but he has seen an equal amount follow the application of the ligature; and he does not consider this as a danger greatly to be feared when injections of proper strength are introduced in the proper way. It is applicable to all cases, is especially adapted to bad cases, and may be used where a cutting operation is inadmissible. It acts by setting up an amount of irritation within the tumour which results in an increase of connective tissue, a closure of the vascular loops, and a consequent hardening and decrease in the size of the hæmorrhoid. Except

when sloughing occurs, the tumours are not, therefore, removed, but are rendered inert, so that they no longer either bleed or come down outside of the body. In cases in which the sphincter has become weakened by distension, the injections will also have a decided effect in contracting the anal orifice, as injections of ergot or strychnine do in cases of prolapsus. He has used this method of treatment now many times, and has never, except in one case, had reason to regret using it or to be dissatisfied with its results, so far as he has been able to follow them. Although slow to advocate any one treatment of this affection to the exclusion of all others, he now generally adopts this from the outset in each case, reserving Allingham's operation for any in which the injections may fail. As yet he has met with no such case. Its advantages over all other methods, provided its results prove equally satisfactory, are manifest. The patient is not terrified at the outset by the prospect of a surgical operation, is not confined to his bed, and is not subjected to any suffering. The cure goes on painlessly, and almost without his consciousness. The method requires some practice and some skill in manipulation, in getting a good view of the point to be injected, and in making the injection properly; but this is soon acquired; and he is more and more convinced that the fear of producing ulceration is an exaggerated one, and that when ulceration is produced it is a result either of a solution of too great strength, or of one improperly administered.

#### THE COMPARATIVE ACTION OF SULPHATE OF DATURIA AND OF SULPHATE OF HYOSCYAMIA UPON THE IRIS AND CILIARY MUSCLE.

In the *American Journal of the Medical Sciences* for July, 1882, Dr. Charles A. Oliver publishes a series of careful comparative experiments with the above mydriatics, of which the following are the conclusions:

1. A single instillation of either the  $\frac{1}{40}$  or  $\frac{1}{20}$  of a grain each of both the sulphate of daturia and the sulphate of hyoscyamia is sufficient to paralyse accommodation in a normal emmetropic or a healthy ametropic eye.
2. No dependence can be placed upon the action of a single instillation of either of these drugs upon the ciliary muscle of an unhealthy ametropic eye.
3. A single instillation of either  $\frac{1}{40}$  or  $\frac{1}{20}$  is of no value in the estimation of the degree of refraction in marked cases of asthenopic ametropia; but may be of great service in either verifying previous results or primarily determining errors in ametropic eyes.
4. Maximal dilatation of the pupil is produced by a single instillation of either of these.
5. The total paralysis of the ciliary muscle, occasioned by a single instillation of sulphate of daturia is attained later and lost sooner than the total paralysis occasioned by a single instillation of equivalent amounts of sulphate of hyoscyamia.
6. The mydriasis of a single instillation of sulphate of daturia is not so quickly attained, and is of shorter duration than that of a single instillation of equivalent amounts of sulphate of hyoscyamia.

7. The full action of a single instillation of sulphate of daturia upon the iris and ciliary muscle remains *intact* for a shorter time than that of a single instillation of equivalent amounts of sulphate of hyoscyamia; the time of the latter being almost double that of the former. 8. With the use of the amounts given of both the drugs, primary calculation of refractive error may be accurately obtained without second instillation, after the lapse of twenty-four hours. 9. The long-continued dilatation of the pupil, and the slow return of ciliary power occasioned by the amounts given of both the drugs, render them absolutely useless where we desire accurate ophthalmoscopic examination in cases dependent upon their use. 10. The astringent and irritant action of the two drugs upon the conjunctiva may be avoided by the use of a neutral salt. 11. The comparatively rare and slight transient constitutional effect caused by a single instillation of the amounts given of sulphate of daturia may be considered as perfectly harmless, and of no consequence. 12. The grave constitutional disturbance sometimes seen during the use of a single instillation of the amounts given of sulphate of hyoscyamia, should render us cautious in its employment.

#### AN ANALYTICAL EXAMINATION OF ONE HUNDRED CASES OF EXTIRPATION OF THE KIDNEY.

DR. ROBERT P. HARRIS has collected one hundred cases of nephrectomy which he has arranged in tabular form and subjected to critical analysis in the July number of the *American Journal of the Medical Sciences*. The relative value and safety of the abdominal and lumbar methods of operating cannot be ascertained from their respective results as shown in the table. Theoretically, the lumbar incision ought to be the safer, but much will depend upon the character of the case to be operated upon, and practicability often decides the question in favour of the abdominal incision. Where the kidney is but slightly enlarged, the costo-iliac space sufficient, and the gland moderately adherent, there can be no question that the lumbar method is safer and preferable; but in a large proportion of cases the abdominal section is easier and safer of the two, by reason of the size and character of the tumour, and difficulties to be overcome in ligating its blood vessels. From the record of cases given, and their numerous mishaps, it is evident that the operation of nephrectomy is still upon trial, both as to the best method of performance and the diseased condition indicating the excision. With regard to some of the diseases of the kidney, we may say without hesitation, that the operation is demanded, and promises well, both as to the prospect of recovery, and the permanence of relief obtained.

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OF

## MEDICAL SCIENCE.

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Authors of Communications are requested to write the prescriptions in their paper in full, and in English.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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OCTOBER 2, 1882.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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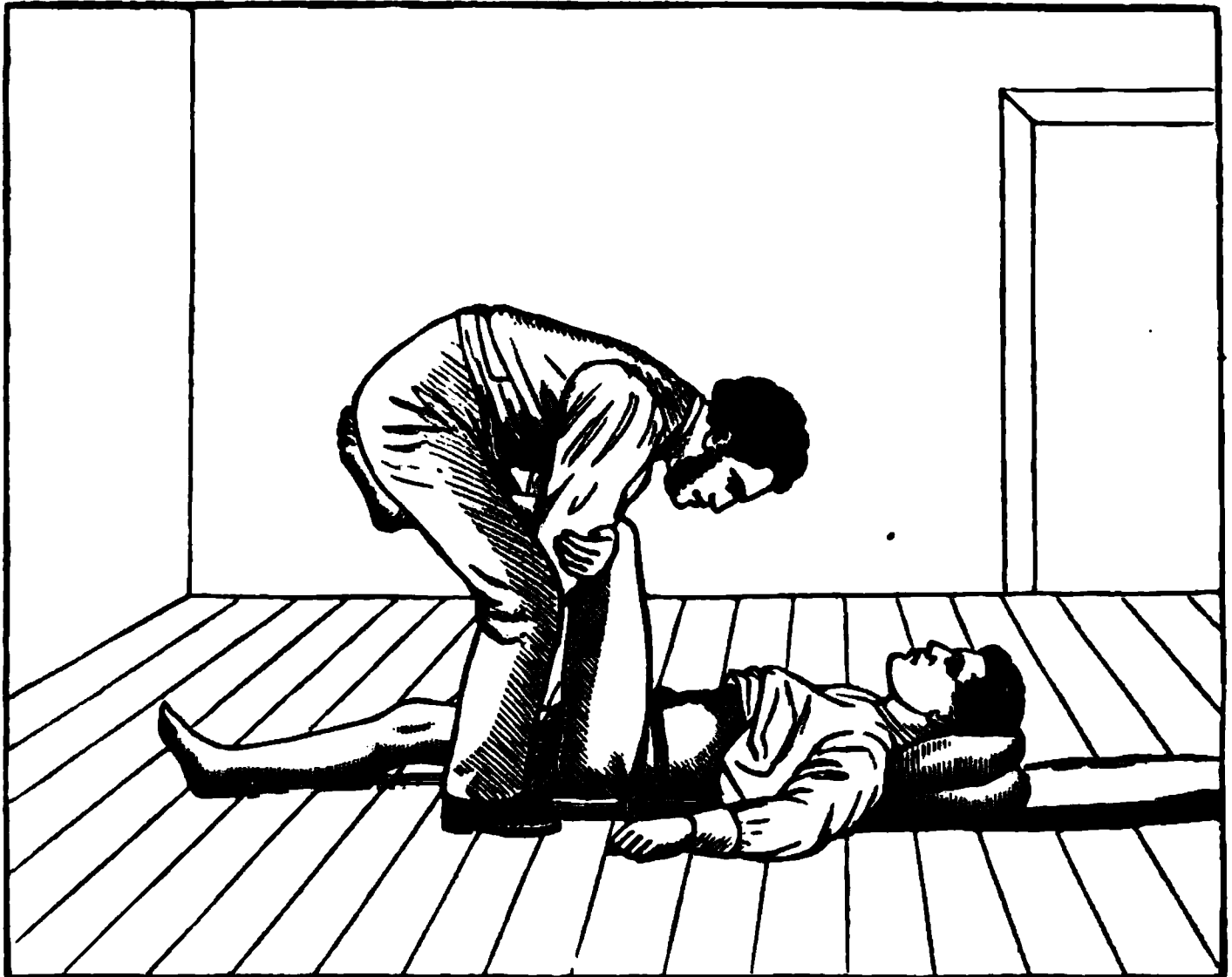
ART. IX.—*Two New Methods of Reduction in Dislocations of the Femur.* By J. E. KELLY, F.R.C.S.I., M.R.I.A.; Surgeon to Jervis-street Hospital; Lecturer on Surgery, Ledwich School of Medicine, Dublin, &c.

IN the preceding number of this Journal I suggested an original method of reducing luxations of the humerus, and I now propose to introduce to the notice of the profession two new methods of dealing with dislocations of the femur, which, for convenience of description, I shall divide into anterior and posterior.

The following were the circumstances under which I had the good fortune to devise my method of treating posterior dislocations:—Several years ago a patient, aged about forty or fifty, suffering from a dislocation on the dorsum ilii, was admitted, during the service of one of my colleagues, into Jervis-street Hospital. He was a remarkable man, having gained by his prowess the title of “King of the Quay Porters,” a body distinguished for their strength and endurance. My colleague, a gentleman of the highest attainments, on three occasions consulted with the staff of the hospital, and with other eminent surgeons, including the late Mr. Adams. Guided by his personal knowledge and the suggestions of his friends, he caused special apparatus to be constructed, from which he expected increased facilities, and ineffectually tried every recognised method of reduction. At the last consultation I obtained permission to test an expedient which

had occurred to me. I fixed the patient's pelvis firmly to the floor, and standing over the limb, I flexed it, and placed his foot between my thighs; then passing my forearms under his knee, I made vigorous traction upwards, when, to our great relief, I effected the reduction.

Fig. 1.



By this favourable result and a successful experience of more than six other cases, in some of which many methods were tried, I have been enabled to develop the details of the procedure which I shall now describe. Three strong "screw hooks" are inserted into the floor close to the perinæum and each ilium of the patient, and to those hooks he is secured by a strong bandage or rope. The injured thigh is flexed at right angles to the patient's body; the foot and lower extremity of the tibia are placed against the perinæum of the surgeon, who, bending forward with his knees slightly flexed, passes his forearms behind the patient's knee, and grasps his own elbows. He is now in the best position (Fig. 1) to accomplish the reduction. With this object he exerts his strength to draw the femur upwards, which action is generally sufficient to effect it; but, when necessary, circumduction may be combined with extension, as the surgeon, while maintaining traction, sways his body towards the patient's uninjured side, then towards his

head, then outwards, and stepping backwards, he lays with a sweep the injured limb by its fellow, and thus the dislocation is reduced. In ischiatic dislocations a bandage, upon which an assistant may make traction, can be passed round the thigh close to the trochanter, and may be useful for the purpose of liberating the head of the bone from the sacro-sciatic foramen.

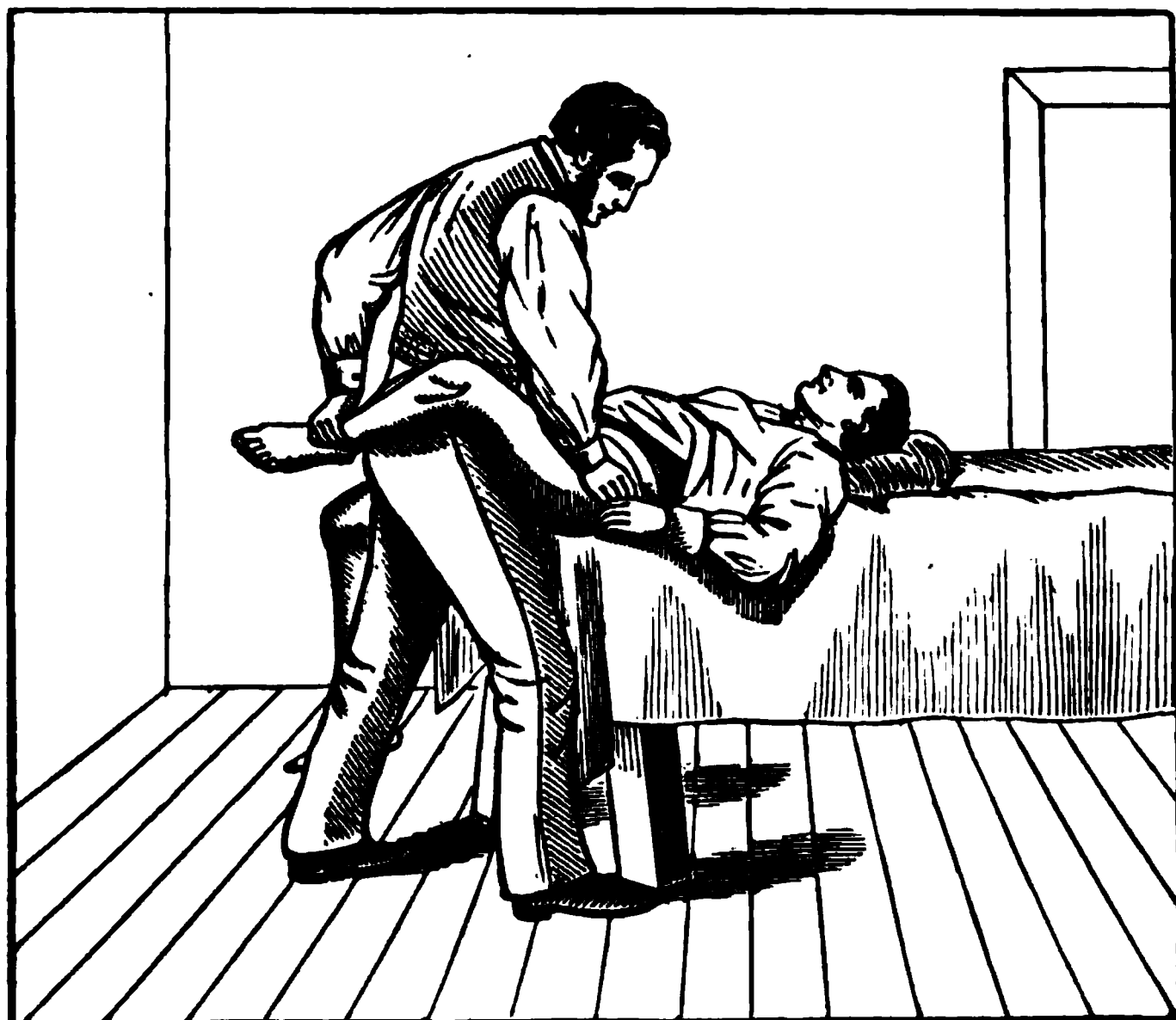
While analysing this measure, I shall contrast the facilities afforded by it and by the other methods of reduction for making extension, counter-extension, and coaptation. In femoral dislocations the application of extension is more difficult than in humeral luxations, owing to the dimensions of the limb, which render the grasp of the surgeon almost useless; while the clove hitch and other appliances are notably insecure when placed above the knee, over which they slip with great facility. When the traction is applied to the ankle much of the power is lost, owing to the length of the intervening limb, and the great advantage derivable from the application of the leg as a lever to rotate the femur is forfeited. In my method the extension is applied in the most approved direction, and with the greatest economy of force, as the muscles of prehension are hardly called into play, being only required for the slight effort necessary to fix the hands on the elbows, while the forearms are flexed by their numerous and powerful muscles, and the patient's leg is kept in position by being a lever of the third order, and its displacement, owing to the unfavourable point to which the power is applied, would require a force of over a thousand pounds. Extension, when derived from many assistants, as I observed in my paper on Dislocations of the Humerus, is awkward and obstructive; and when it has a mechanical source it is still less desirable, being rigid, unmanageable, and dangerous; it can only be applied slowly, and in a fixed direction; when in action its effects cannot be estimated until, perhaps, much mischief is done; and when the surgeon wishes to know if his effort be successful he can only ascertain this by relaxing the tension, which can but be effected, slowly, by reversing the pulley, or, in a violent and tumultuous manner, by the interposition of some of the ingenious and well-intended instruments constructed for the purpose. The agency which I would substitute is ample, under perfect control, and sustainable, if necessary, for a considerable time, being derived from the most powerful muscles of the body—namely, those of the back, the shoulders, and the lower extremities. It is an adaptation of the feat termed

by athletes "raising" or "lifting a weight," which affords the most powerful example of human dynamics—reaching, in some instances, to 800 or 1,000 lbs., the average being from 300 to 500 lbs.—a force which, if mechanical, the careful surgeon would rarely exceed. Again, as the grasp of the gymnast is one of the limitations of the exploit, my method, which minimises this function, economises a certain amount of muscular energy, which possibly may be utilised in increasing the lifting power of the operator. The counter-extension is simply only limited by the strength of the floor, the hooks, and the bandages or rope. The boards are secured from being displaced by the fact that in addition to his own weight the operator transmits to them a resistance equal to the power he exerts. The thread upon the screws should be deep, that they may not be easily torn through the boards, and they should be inserted at an angle obtuse to the body of the patient, as thus they afford the greatest resistance. The coaptation which I propose is a combination of the principle of vertical traction, accidentally discovered by Dr. Allen, of Vermont, while lifting a patient into bed, and termed "automatic reduction," and of the "manual method" of Hippocrates and Paulus Ægineta, which has been formulated in Europe by Desprès and Pouteau in the words "flex, abduct, and rotate"—the greatest prominence being given by them to "abduction," while Reid and Bigelow in America use the terms "flex, abduct, and evert"—Bigelow regarding "flexion" as the most important motion. "Reduction by manipulation," which includes all those refinements, must be adapted to the multiformity of dislocations, and due prominence given to that element or constituent of the manœuvre which is best adapted to the characteristics of the case. Another factor in coaptation is the rotatory force exerted on the femur by the lateral motions of the leg, acting as a lever, commanded at its upper extremity by the arms and at the lower by the thighs of the surgeon. This is a power capable of great utilisation.

For anterior luxations I propose the following method, which is a modification of that suggested for humeral luxations:—The patient is placed on his back on a bed or table of such an elevation that his pelvis is nearly as high as the trochanter of the surgeon. A bandage passed round the pelvis, and secured on the side of table or bed furthest from the dislocation, affords efficient counter-extension. The surgeon, with his face directed towards the dislocated joint, stands on the inner side of the injured limb, with his

trochanter pressed firmly against the femur; bending the leg behind his back he grasps the ankle with the corresponding hand, and is in the position (Fig. 2) to effect the reduction. He now rotates or turns his body away from the patient, thus making traction on the femur in the most favourable direction, and, at the same time, pressing its head towards the acetabulum. I have already considered the mechanism of this expedient in my former paper. The operator has one hand disengaged for the application of minor manipulation if it should be necessary.

Fig. 2.



Before concluding this article I wish most distinctly to disclaim any intention of proposing a substitute for that great triumph of modern surgery, the treatment of femoral dislocation by simple manipulation during anæsthesia; but most surgeons of experience have encountered instances of its failure, even in the most skilful hands. In such cases I claim many advantages for my methods, which afford other avenues of escape from that true opprobrium of surgery, an unreduced dislocation. They also promise to render the surgeon independent of anæsthesia, assistants, and mechanical power, as in several of my cases I have reduced the dislocations without aid from any source.

ART. X.—*Observations on the Thickness of the Human Skull.* By R. J. ANDERSON, M.A., M.D., M.R.C.S., Eng.; Demonstrator of Anatomy, Queen's College, Belfast.

THE variation in the thickness of the human skull in different individuals, and in different parts of the same skull, is well known. The causes of these varieties have been assigned to the character of the soft parts, the changing character of the brain, and are, in a great measure, due to the same causes that regulate the growth and development of the individual.

The following observations were in 154 skulls of subjects brought to the anatomical rooms. The measurements were made with callipers carefully adjusted, and in the following regions:—

- A. The superior angle of the frontal in the superior longitudinal sinus.
- B. Above the external angular process.
- C. Parietal eminence.
- D. The anterior superior angle of the parietal outside the longitudinal sinus and the Pacchionian depressions.
- E. The posterior superior angle of the parietal.
- F. Posterior inferior angle of the parietal in the lateral sinus.
- G. In the middle fossa, near the centre of the squamous part of the temporal bone.
- H. Occipital (superior angle) in the longitudinal sinus.
- I. Occipital at the middle of the inferior fossæ.
- J. Occipital protuberance.
- K. Occipital superior fossæ.
- L. Frontal eminence.
- M. Weight of brain.

Where two measurements are given, connected by a hyphen, the first indicates the size of the right, the second that of the left.

The numbers indicate sixty-fourths of an inch. Thus, in No. 1, the thickness of the frontal near the superior angle is  $\frac{16}{64} = \frac{1}{4}$  inch.

The column immediately succeeding M contains the nature of the convolution markings. These are usually best marked at the base. For the greater number they were slight or absent at the roof.

- a. Convolution markings slight.
- β. No convolution markings.
- γ. Convolution markings distinct over lower parietal part.

TABLE.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	-
1	M	—	16	—	19-18	13-11	20-18	—	—	—	—	—	—	—	—	—
2	—	—	18	—	22-28	16-15	10-10	—	—	—	—	—	—	—	—	—
3	—	—	16	—	19·5-20·5	20-16	14-15	—	—	—	—	—	—	—	—	—
4	—	—	11	—	12-12	14-10	13-17	—	—	—	—	—	—	—	—	—
5	—	—	18	—	14-13	15-14	20-16	—	—	26	—	—	—	—	—	—
6	—	—	17	—	9-8	14-15	16-15	—	—	—	—	—	—	—	—	—
7	—	—	11·2	—	16-13	6-11	12-14	—	—	14	—	—	—	—	—	—
8	—	—	17	—	-11·9	12-14	14-15	—	—	19	—	—	—	—	—	—
9	—	—	19	—	17-18	18-17	22·5-20	—	—	26	—	—	—	—	—	—
10	—	—	21	—	18·5-19·5	18-15	22·5-25	—	—	24	—	—	—	—	—	—
11	—	—	13	—	12-4	12-12·3	17-17	—	—	23	—	—	—	—	—	—
12	—	—	14	—	3-4	8-10	9-7	—	—	15	—	—	—	—	—	—
13	—	—	21	—	18-13	18-16	20-17	—	—	25	—	—	—	—	—	—
14	—	—	17·6	—	18-18	16-14	20-20	—	—	30	—	—	—	—	—	—
15	—	—	18	—	13-19	15-16	20-24	—	—	27	—	—	—	—	—	—
16	—	—	22	—	16-17	17-16	16-13	—	—	19	—	—	—	—	—	—
17	—	—	20	—	15-15	17-18	15-13	—	—	20	—	—	—	—	—	—



TABLE—continued.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	—
18	M.	56	24	18-16	12-12	16-19	—	14-18	4-3	—	3-4	34	—	—	—	—
19	F.	30	22	-28	-22	22-26	—	12-11	9-14	21	3-1	29	—	—	—	—
20	F.	39	20	20-18	24-20	17-19	—	16-14	5-7	—	11-7	48	—	—	—	—
21	F.	56	16	16-14	16-20	10-7	—	14-12	4-5	—	4-4	28	—	—	—	—
22	F.	56	15	12-10	16-6	10-9	14-16	9-10	5-5.4	15	3-3	27	—	—	—	—
23	F.	60	19	12-11	15-16	14-10	16-16	12-16	4-4	18	7-6	32	—	—	—	—
24	F.	76	20	11-8	18-21	9-14	16-16	12-13	4-3	17	3-4	23	—	—	—	γ
25	M.	30	17	—	17-15	14-15	18-18	14-17	6-5	26	11-8	36	—	—	—	γ
26	—	—	18	—	13-14	15-17	9-13	10-9	—	14	6-8	38	—	—	—	γ
27	F.	60	16	—	8-11	11-12	14-13	10-13	4-3	13	7-6	24	—	—	—	γ
28	—	—	20	6-6	12-10	20-17	12-17	16-14	4-4	—	5-5	34	—	—	—	γ
29	F.	57	16	14-13	12-14	11-10	14-17	10-14	4-5	16	5-5	35	—	—	33	γ
30	M.	52	17	11-10	16-16	16-16	18-14	12-12	6-5	20	8-7	25	—	—	45½	γ
31	M.	70	13	8-10	13-12	12-14	14-13	15-14	7-6	15	4-5½	41	—	—	24	γ
32	F.	64	22	16-13	22-20	19-17	27-29	23-25	5-6	22	6-5	25	—	—	43	γ
33	M.	76	18	12-8	7-8	15-19	18-11	15-	5-2	12	2-3	35	—	—	50	β
34	M.	45	10	15-15	10-12	12-11	13-10	8-8	5-4	13	3-3	32	—	—	52	γ
35	M.	72	16	17-9	15-14	14-5-16	15-14	10-12	4-2	14	7-4	41	—	—	56	γ
36	F.	57	15	—	12-12	16-19	16-16	12-12	4-3	15	3-3	34	—	—	58	γ

38	F.	44	20	6-6	18-15	16-16	17-14	11-11	1-3	16	4 4	28	—	—	46½	a
39	F.	70	20	23-20	15-14	20-21	12-13	12-18	4-6	20	7-6	41	—	—	—	γ
40	M.	48	13	12-14	13-16	16-13	17-20	17-16	4-2	22	8-8	40	—	—	52	γ
41	M.	68	13	—	10-12	11-9	11-11	14-18	4-2	15	14-13	37	—	—	50	γ
42	F.	30	12	12-16	16-16	10-10	16-14	12-12	4-3	11	5-3	34	—	—	41	β
43	M.	70	16	5-9	13-16	13-12	12-10	8-10	3-1	9	4-2	24	—	—	52	γ
44	M.	60	17	14-16	22-17	13-17	19-20	19-16	4-3	23	8-8	42	—	—	53	γ
45	F.	35	16	9-8	12-12	11-13	13-12	6-9	1-1	14	2-1	24	—	—	45	γ
46	F.	73	19	16-14	16-18	18-14	17-15	16-16	-2	20	4-6	36	—	—	49	β
47	M.	51	19	16-16	12-16	20-18	14-12	13-16	2½-1	13	7-7	40	—	—	42	β
48	M.	70	16	8-12	16-18	14-14	14-14	14-12	6-5	17	4-3	32	—	—	53	β
49	M.	50	16	14-12	13-15	12-11	12-12	8-14	3-1	12	8-5	32	6-8	—	51	γ
50	M.	13	11	8-7	12-14	9-8	15-13	7-8	1-3	14	2-2	22	7-8	—	39	γ
51	M.	63	18	16-12	17-15	15-16	18-13	17-20	4-4	21	5-6	45	15-13	—	53	β
52	F.	80	15	12-12	16-16	13-12	13-12	13-14	4-5	18	3-4	12	10-10	22-20	41	β
53	F.	35	15	12-10	16-18	16-12	17-16	12-16	4-3	23	8-8	36	10-9	16-17	45	β
54	M.	74	19	10-9	20-20	17-17	13-13	23-20	4-5	19	4-5	48	9-8	11-12	45	a
55	M.	80	18	12-25	17-17	14-12	17-14	14-14	4-3	20	4-4	40	9-8	17-18	53	β

a Lateral sinus not grooved so far as petrous portion of temporal.

b Inner table at parts necrosed.

c Frontal sinuses very large; two inches from side to side; ¼ inch deep.

**TABLE—continued.**

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	N
18	M.	56	24	18-16	12-12	16-19	—	14-18	4-3	—	3-4	34	—	—	—	—
19	F.	30	22	-28	-22	22-26	—	12-11	9-14	21	3-1	29	—	—	—	—
20	F.	39	20	20-18	24-20	17-19	—	16-14	5-7	—	11-7	48	—	—	—	—
21	F.	56	16	16-14	16-20	10-7	—	14-12	4-5	—	4-4	28	—	—	—	—
22	F.	56	15	12-10	16-5	10-9	14-16	9-10	5-5.4	15	3-3	27	—	—	—	—
23	F.	60	19	12-11	15-16	14-10	16-16	12-16	4-4	18	7-6	32	—	—	—	—
24	F.	75	20	11-8	18-21	9-14	16-16	12-13	4-3	17	3-4	23	—	—	—	γ
25	M.	30	17	—	17-15	14-15	18-18	14-17	6-5	26	11-8	36	—	—	—	γ
26	—	—	18	—	13-14	15-17	9-13	10-9	—	14	6-8	38	—	—	—	γ
27	F.	60	16	—	8-11	11-12	14-13	10-13	4-3	13	7-6	24	—	—	—	γ
28	—	—	20	6-6	12-10	20-17	12-17	16-14	4-4	—	5-5	34	—	—	—	γ
29	F.	57	16	14-13	12-14	11-10	14-17	10-14	4-5	16	5-5	35	—	—	38	γ
30	M.	52	17	11-10	16-16	16-16	18-14	12-12	6-5	20	8-7	25	—	—	45½	γ
31	M.	70	13	8-10	13-12	12-14	14-13	15-14	7-6	15	4-5½	41	—	—	24	γ
32	F.	64	22	16-13	22-20	19-17	27-29	23-25	5-6	22	6-5	25	—	—	48	γ
33	M.	76	18	12-8	7-8	15-19	18-11	15-	5-2	12	2-3	35	—	—	50	β
34	M.	45	10	15-15	10-12	12-11	13-10	8-8	5-4	13	3-3	32	—	—	52	γ
35	M.	72	15	17-9	15-14	14-5 16	15-14	10-12	4-2	14	7-4	41	—	—	56	γ
36	M.	51	15	—	15-14	14-5 16	15-14	10-12	4-2	14	7-4	41	—	—	56	γ

75	F.	61	16	10-10	15-18	12-11	12-15	17-11	4-8	18	2-	48	12-10	10-12	48	a
76	F.	60	16	21-18	17-18	14-13	16-18	8-14	8-1	19	7-6	28	12-10	9-10	49	a
77	F.	40	12	12-12	18-16	11-6	12-18	14-15	2-8	18	4-2	81	8-9	18-18	—	a
78	F.	38	19	13-14	11-18	12-13	14-14	13-14	3-4	25	11-11	41	8-6	19-20	—	β
79	M.	56	19	—	7-8	12-12	13-12	14-	2-	20	7-6	88	12-10	9-9	—	a
80	F.	40	12	11-10	14-10	11-12	12-12	6-7	2-2	18	1-2	25	6-8	16-16	—	a
81	M.	36	19	19-19	18-20	18-18	19-18	15-14	1-8	24	4-4	43	10-11	21-23	—	β
82	F.	38	20	8-12	18-18	15-16	19-19	12-12	2-2	81	1-2	57	19-20	19-22	—	a
83	M.	50	16	16-15	13-15	12-12	16-15	7-9	1-1	18	6-5	38	9-8	15-12	—	a
84	F.	19	12	11-13	12-13	10-9	13-14	7-7	1-1½	10	½-½	33	6-4	11-13	—	γ
85	F.	20	12	17-12	15-14	12-11	15-15	12-10	8-6	20	4-2	84	12-11	16-16	—	γ
86	F.	70	14	7-10	15-12	14-12	12-12	8-10	3-4	18	1-2	35	7-5	12-10	—	γ
87	F.	68	16	16-15	18-19	15-14	16-15	9-8	½-1	18	1-½	28	8-10	15-14	—	β
88	F.	55	16	9-12	10-11	16-15	17-17	9-18	½-1	23	7-7	40	5-11	15-16	—	β
89	F.	65	15	16-16	12-13	14-12	9-10	10-10	4-5	14	4-4	26	8-8	16-14	—	a
90	M.	25	15	6-16	15-15	14-10	16-18	12-20	2-3	22	1-2	39	9-8	18-18	—	a
91	F.	27	10	6-6	15-14	11-8	14-14	8-8	3-3	19	6-6	40	—	10-12	—	β
92	M.	71	15	16-16	13-12	13-14	12-12	16-16	2-2	14	1-6	33	9-10	8-10	—	a
93	M.	55	14	9-5	13-12	12-11	13-13	7-11	3-3	18	4-2	40	6-2	12-13	—	a
94	F.	80	17	2-8	12-14	19-12	10-9	5-12	1-1	20	3-3	33	9-7	10-16	—	β

a Irregularity of frontal.

b Cerebellar fossae large.

**TABLE—continued.**

[illegible]

114	F.	50	18	16-16	15-16	20-16	18-18	20-18	2-6	28	15-8	41	13-13	16-18	—	α
115	F.	46	16	12-14	18-18	12-12	16-13	16-14	2-2	20	2-4	32	9-8	13-13	—	α
116	F.	49	16	12-10	15-15	18-12	16-16	11-14	4-4	22	4-5	29	12-11	16-15	—	α
117	F.	40	9	9-7	16-16	9-9	11-10	13-8	2-1	17	5-4	28	9-8	15-15	—	α
118	F.	48	20	11-11	16-14	15-13	14-15	14-10	2-1	18	2-1	28	11-11	10-10	—	β
119	F.	70	16	18-12	12-13	15-15	14-14	8-13	2-2	17	—	40	9-8	14-12	—	α
120	F.	45	6	11-11	15-16	15-15	12-12	8-8	1½-1	16	—	34	6-5	16-18	—	α
121	M.	72	13	15-17	14-14	14-13	14-13	16-16	2-2	17	—	42	4-6	16-17	—	α
122	F.	67	20	14-13	3-6	14-14	14-15	9-11	1-2	21	—	31	9-8	16-16	—	γ
123	F.	50	18	8-8	14-16	16-15	18-16	9-16	1-1	21	—	32	7-8	11-12	—	β
124	F.	54	18	15-20	16-20	16-15	14-12	6-7	½-2	24	—	36	11-10	24-25	—	α
125	M.	40	20	16-14	14-16	20-15	17-16	12-13	2-4	18	—	48	10-11	12-13	—	α
126	M.	70	17	13-13	10-14	16-11	15-15	19-19	4-3	17	—	48	11-13	11-13	—	α
127	F.	68	21	15-14	18-17	16-15	19-21	12-12	3-3	28	—	36	12-15	16-17	—	α
128	F.	70	18	9-10	13-16	13-12	15-13	10-11	2-2	18	—	39	8-8	10-12	—	α
129	M.	65	17	12-12	13-15	13-12	16-17	18-16	3-4	25	—	41	12-12	16-18	—	β
130	M.	69	24	17-18	25-26	19-16	24-24	19-22	2-4	32	—	55	15-14	21-23	—	α
131	F.	60	14	9-9	10-12	14-14	12-12	9-10	5-6	16	—	32	12-11	16-17	—	β

α Frontal sinuses extend high up into bone.

β A large depression at internal occipital protuberance, with foramen in the centre.

γ The outer occipital protuberance higher up than the inner.

δ Six Wormean bones in upper left, 7 in upper right suture; superior longitudinal sinus continuous with right lateral large frontal sinus.

TABLE—*continued.*

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	—
132	M.	40	22	14-15	8-12	14-14	18-16	16-17	6-6	27	4-2	52	18-9	12-18	—	γ
• 133	M.	40	15	15-15	16-18	12-13	15-15	11-12	4-5	20	4-4	38	5-9	14-21	—	β
134	F.	30	12	12-10	12-16	9-10	16-14	4-4	1-1	16	3-3	34	12-10	15-17	—	α
135	M.	28	16	20-18	16-15	15-14	18-16	13-17	4-4	20	2-2	32	11-12	15-16	—	α
<sup>b</sup> 136	F.	32	12	17-18	12-14	11-12	14-14	12-9	1-1	18	4-4	28	9-8	12-13	—	α
137	F.	45	20	14-9	14-16	13-13	16-15	14-14	2-	22	4-4	31	8-8	19-16	—	α
138	M.	42	16	16-12	6-8	12-10	8-17	9-12	2-1	16	4-2	28	6-4	11-12	—	α
139	M.	65	15	10-10	10-10	14-14	13-14	14-11	2-1	19	2-2	37	12-10	12-13	—	α
• 140	F.	40	20	15-12	12-14	20-20	13-12	9-11	2-3	17	4-4	36	8-10	10-12	—	γ
<sup>d</sup> 141	M.	75	18	10-12	12-14	20-18	16-15	11-13	1-2	20	2-2	28	8-9	13-11	—	α
142	F.	78	15	10-10	12-12	20-16	15-15	16-8	1-1	21	1-1½	40	10-10	14-12	—	α
143	F.	75	16	9-12	12-12	10-12	11-10	6-9	2-2	18	3-1	30	9-7	15-14	—	α
144	F.	78	26	21-20	26-28	21-23	24-28	18-14	4-4	28	4-4	40	16-16	24-27	—	α
145	M.	60	16	16-17	12-11	12-11	14-15	14-14	4-4	24	6-6	50	11-10	13-15	—	α
• 146	M.	70	15	18-19	12-12	16-13	13-15	10-6	2-3	24	1-1	22	7-12	19-15	—	α
<sup>f</sup> 147	M.	40	20	4-8	11-11	12-13	12-12	13-16	1-4	20	3-2	34	8-8	13-13	—	γ
148	M.	74	20	10-11	12-17	14-14	12-14	18-18	8-2	19	4-2	44	10-9	11-11	—	α
149	M.	70	20	10-9	8-10	13-14	17-18	13-18	3-4	23	2-2	37	10-10	8-10	—	α



150	F.	70	16	5-8	20-12	14-15	16-16	11-10	1-1	82	1-2	38	12-13	11-10	—	a
151	M.	65	19	13-16	14-17	13-13	11-16	12-14	10-7	18	6-6	58	12-13	18-18	—	a
152	M.	70	20	11-14	16-17	17-17	14-16	14-9	4-5	23	1-1	26	8-8	12-11	—	—
153	M.	68	18	8-8	8-11	10-13	12-16	18-16	4-3	25	5-6	50	13-13	15-14	—	—
154	F.	84	20	14-13	9-10	13-13	20-18	15-16	1-3	19	2-3	44	16-13	14-16	—	—

SUMMARY.

Age	A	B	C	D	E	F	G	H	I	J	K	L	M
	2598.8	1642-1675	2224-2307.9	2218-2126.8	2298.5-2283	1664-1772	437-481.9	2883	567-550.5	4102	1115-1098	1529-1568	2172
	154	131-132	153-154	154	150	137-135	136-134	143	124-123	137	105	103	48
53.5	16.87	12.5-12.7	14.5-14.3	14.4-13.7	15.2-15.2	11.4-13.1	3.2-3.16	20.1	4.57-4.4	23.3	16.6-10.4	14.8-15.2	45.2

The first column represents the mean of the ages—i.e., 53.5.

The first line represents the sum of the measurements.

The third line represents the mean of the measurements.

- a Outer occipital protuberance higher than the inner.
- b Large frontal sinuses.
- c The inferior longitudinal sinus passes to right lateral.
- d The outer occipital protuberance higher than the inner.
- e The outer occipital protuberance much higher than the inner.
- f A well-marked ridge sinus across the inferior fossa of the occipital bone.

ART. X.—*Observations on the Thickness of the Human Skull.* By R. J. ANDERSON, M.A., M.D., M.R.C.S., Eng.; Demonstrator of Anatomy, Queen's College, Belfast.

THE variation in the thickness of the human skull in different individuals, and in different parts of the same skull, is well known. The causes of these varieties have been assigned to the character of the soft parts, the changing character of the brain, and are, in a great measure, due to the same causes that regulate the growth and development of the individual.

The following observations were in 154 skulls of subjects brought to the anatomical rooms. The measurements were made with callipers carefully adjusted, and in the following regions:—

- A. The superior angle of the frontal in the superior longitudinal sinus.
- B. Above the external angular process.
- C. Parietal eminence.
- D. The anterior superior angle of the parietal outside the longitudinal sinus and the Pacchionian depressions.
- E. The posterior superior angle of the parietal.
- F. Posterior inferior angle of the parietal in the lateral sinus.
- G. In the middle fossa, near the centre of the squamous part of the temporal bone.
- H. Occipital (superior angle) in the longitudinal sinus.
- I. Occipital at the middle of the inferior fossæ.
- J. Occipital protuberance.
- K. Occipital superior fossæ.
- L. Frontal eminence.
- M. Weight of brain.

Where two measurements are given, connected by a hyphen, the first indicates the size of the right, the second that of the left.

The numbers indicate sixty-fourths of an inch. Thus, in No. 1, the thickness of the frontal near the superior angle is  $\frac{16}{64} = \frac{1}{4}$  inch.

The column immediately succeeding M contains the nature of the convolution markings. These are usually best marked at the base. For the greater number they were slight or absent at the roof.

- a.* Convolution markings slight.
- β.* No convolution markings.
- γ.* Convolution markings distinct over lower parietal part.

TABLE.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	-
1	M.	—	16	—	19-18	13-11	20-18	—	—	—	—	—	—	—	—	—
2	—	—	18	—	22-28	16-15	10-10	—	—	—	—	—	—	—	—	—
3	—	—	16	—	19-5-20-5	20-16	14-15	—	—	—	—	—	—	—	—	—
4	—	—	11	—	12-12	14-10	13-17	—	—	—	—	—	—	—	—	—
5	—	—	18	—	14-13	15-14	20-16	—	—	26	—	—	—	—	—	—
6	—	—	17	—	9-8	14-15	16-15	—	—	—	—	—	—	—	—	—
7	—	—	11-2	—	16-13	6-11	12-14	—	—	14	—	—	—	—	—	—
8	—	—	17	—	-11-9	12-14	14-15	—	—	19	—	—	—	—	—	—
9	—	—	19	—	17-18	18-17	22-5-20	—	—	26	—	—	—	—	—	—
10	—	—	21	—	18-5-19-5	18-15	22-5-25	—	—	24	—	—	—	—	—	—
11	—	—	13	—	12-4	12-12-3	17-17	—	—	23	—	—	—	—	—	—
12	—	—	14	—	3-4	8-10	9-7	—	—	15	—	—	—	—	—	—
13	—	—	21	—	18-13	18-16	20-17	—	—	25	—	—	—	—	—	—
14	—	—	17-6	—	18-18	16-14	20-20	—	—	30	—	—	—	—	—	—
15	—	—	18	—	13-19	15-16	20-24	—	—	27	—	—	—	—	—	—
16	—	—	22	—	16-17	17-16	16-13	—	—	19	—	—	—	—	—	—
17	—	—	20	—	15-15	17-18	15-13	—	—	20	—	—	—	—	—	—

TABLE—continued.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	—
56	F.	50	20	12-10	20-19	16-16	16-16	20-17	2-1	18	4-8	25	13-10	17-	53	β
57	M.	18	12	7-8	10-10	10-10	14-14	8-18	8-8	20	8-8	27	19-11	10-8	43	α
58	M.	53	17	14-14	14-14	16-15	17-14	14-11	7-5	23	5-12	33	10-8	17-17	49	β
59	F.	60	17	17-18	21-19	14-14	21-20	11-10	11-9	27	10-12	36	16-16	15-13	42	β
60	M.	54	15	8-11	16-17	9-12	14-15	10-10	2-8	28	5-3-5	27	19-14	10-11	54	α
61	F.	55	12	10-10	14-13	14-13	14-13	11-11	1-14	17	1-2	27	12-14	15-15	44	β
62	F.	50	15	12-10	14-14	10-12	13-16	11-9	4-4	19	4-4	37	12-24	16-14	48	α
63	M.	57	22	19-20	25-23	16-16	18-18	17-28	12-12	25	14-14	60	18-16	19-24	42	β
64	F.	55	15	12-10	13-12	14-14	16-18	13-16	3-2	23	7-6	46	10-11	12-11	51	β
65	F.	60	14	8-8	22-21	14-13	20-21	11-12	3-4	15	4-4	24	16-18	15-14	39	β
66	F.	61	15	10-9	12-12	13-12	11-13	14-19	5-3	20	4-5	30	12-12	17-16	39	β
67	F.	75	23	12-12	16-19	20-18	17-18	8-8	4-4	24	2-3	38	11-16	13-16	40	γ
68	F.	76	13	13-16	14-15	11-11	14-14	22-19	5-4	15	6-5	31	10-12	17-17	41	α
69	F.	16	10	7-8	10-4	8-9	10-9	8-6	2-3	14	3-4	28	8-8	10-7	42	γ
70	F.	50	14	8-7	13-13	10-8	16-12	11-8	1-11	18	3-2	21	10-8	13-14	43	β
71	F.	61	18	19-13	25-20	15-15	20-21	14-16	3-4	20	6-8	26	15-16	16-16	44	β
72	F.	46	16	9-9	13-13	14-13	16-17	10-13	2-3	20	8-9	46	11-12	16-16	45	γ
73	F.	45	17	5-11	16-19	19-18	18-19	14-16	4-4	20	6-6	37	10-9	20-19	46	γ
74	F.	..	..	.. 14	.. 17	.. 16	.. 16	.. 13	.. 7	..	..	..	.. 13	.. 16	47	γ

37	M.	50	15	16-15	13-14	13-11	12-16	13-11	2-4	16	4-10	26	—	—	56	α
38	F.	44	20	6-6	18-15	16-16	17-14	11-11	1-3	16	4 4	23	—	—	46½	γ
39	F.	70	20	23-20	15-14	20-21	12-13	12-18	4-6	20	7-6	41	—	—	—	γ
40	M.	48	13	12-14	13-16	16-13	17-20	17-16	4-2	22	8-8	40	—	—	52	γ
41	M.	68	13	—	10-12	11-9	11-11	14-18	4-2	15	14-13	37	—	—	50	β
42	F.	30	12	12-16	16-16	10-10	16-14	12-12	4-3	11	5-3	84	—	—	41	γ
43	M.	70	16	5-9	18-16	13-12	12-10	8-10	3-1	9	4-2	24	—	—	52	γ
44	M.	60	17	14-16	22-17	13-17	19-20	19-16	4-3	23	8-8	42	—	—	53	γ
45	F.	35	16	9-8	12-12	11-13	13-12	6-9	1-1	14	2-1	24	—	—	45	γ
46	F.	73	19	16-14	16-18	18-14	17-15	16-16	-2	20	4-6	36	—	—	49	β
47	M.	51	19	16-16	12-16	20-18	14-12	13-16	2½-1	13	7-7	40	—	—	42	β
48	M.	70	16	8-12	16-18	14-14	14-14	14-12	6-5	17	4-3	32	—	—	53	β
49	M.	50	16	14-12	13-15	12-11	12-12	8-14	3-1	12	8-5	32	6-8	—	51	γ
50	M.	13	11	8-7	12-14	9-8	15-13	7-8	1-3	14	2-2	22	7-8	—	39	γ
51	M.	63	18	16-12	17-15	15-16	13-13	17-20	4-4	21	5-6	45	15-13	—	53	β
52	F.	80	15	12-12	16-16	13-12	13-12	13-14	4-5	18	3-4	12	10-10	22-20	41	β
53	F.	35	15	12-10	16-18	16-12	17-16	12-16	4-3	23	8-8	36	10-9	16-17	45	β
54	M.	74	19	10-9	20-20	17-17	13-13	23-20	4-5	19	4-5	48	9-8	11-12	45	α
55	M.	80	18	12-25	17-17	14-12	17-14	14-14	4-3	20	4-4	40	9-8	17-18	53	β

α Lateral sinus not grooved so far as petrous portion of temporal.

β Inner table at parts necrosed.

γ Frontal sinuses very large; two inches from side to side; ¼ inch deep.

TABLE—continued.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	—
95	F.	55	12	13-16	9-11	14-10	19-19	15-13	2-2	17	4-8	28	9-10	16-14	—	γ
96	M.	75	12	12-8	8-8	12-12	10-10	8-12	1-½	16	4-8	31	4-6	8-9	—	γ
97	F.	40	20	10-11	14-16	13-13	17-17	11-10	1-2	20	5-4	34	24-16	16-17	—	α
98	M.	45	20	14-14	16-16	14-13	14-13	9-8	2-3	18	10-10	32	6-10	16-17	—	β
99	M.	60	17	24-25	22-21	18-16	18-20	14-15	4-5	28	3-2	45	9-10	32-31	—	β
100	M.	45	18	12-12	17-17	15-16	14-14	11-11	4-4	22	1-2	38	10-9	17-16	—	α
101	M.	30	22	11-11	16-16	15-13	14-14	4-6	2-2	21	3-3	29	4-5	14-14	—	α
102	F.	48	18	10-8	19-20	14-13	16-17	9-13	3-4	24	4-3	40	12-10	15-18	—	β
103	M.	60	24	10-12	19-18	28-24	20-24	17-19	3-2	28	3-6	46	16-16	20-20	—	α
104	M.	50	21	12-10	8-10	14-20	10-9	10-6	2-2	18	4-3	34	5-6	9-9	—	γ
105	M.	61	12	12-12	12-13	11-12	11-12	12-12	2-2	16	3-3	48	8-9	12-14	—	β
106	F.	61	14	16-17	22-21	18-20	16-13	12-11	4-4	24	3-3	36	8-6	24-22	—	α
107	F.	61	23	16-17	18-20	18-16	25-21	12-13	4-8	32	4-2	45	24-24	20-22	—	α
108	F.	50	18	12-10	16-18	16-12	13-13	12-12	3-4	32	3½-4	40	16-15	14-18	—	β
109	F.	50	15	12-12	12-13	9-8	11-12	12-14	6-6	23	4-4	36	9-8	16-18	—	α
110	M.	48	22	22-24	17-20	22-18	15-14	12-12	3-4	16	12-13	52	15-15	16-16	—	α
111	F.	40	22	16 16	20-10	15-17	15-15	13-14	3-2	15	4-3	40	14-12	18-17	—	α
112	F.	60	20	17 18	14 20	19 19	15 18	7 12	2 3	23	3 3	40	14 12	14 20	—	α
...	...	...	16	14 14	17 17	13 14	16 16	17 14	1 4	13	4 4	34	11 6	12 14	—	...

75	F.	61	15	10-10	15-13	12-11	12-15	7-11	4-3	18	2-	48	12-10	10-12	48	α
76	F.	60	16	21-13	17-18	14-13	16-18	8-14	3-1	19	7-6	28	12-10	9-10	49	α
77	F.	40	12	12-12	18-16	11-6	12-13	14-15	2-3	18	4-2	31	8-9	18-18	—	α
78	F.	38	19	13-14	11-13	12-13	14-14	13-14	3-4	25	11-11	41	8-6	19-20	—	β
79	M.	56	19	—	7-8	12-12	13-12	14-	2-	20	7-6	38	12-10	9-9	—	α
80	F.	40	12	11-10	14-10	11-12	12-12	6-7	2-2	13	1-2	25	6-8	16-16	—	α
81	M.	36	19	19-19	18-20	18-18	19-18	15-14	1-3	24	4-4	43	10-11	21-23	—	β
82	F.	38	20	8-12	18-18	15-16	19-19	12-12	2-2	31	1-2	57	19-20	19-22	—	α
83	M.	50	16	16-15	13-15	12-12	16-15	7-9	1-1	18	6-5	38	9-8	15-12	—	α
84	F.	19	12	11-13	12-13	10-9	13-14	7-7	1-1½	10	½-½	33	6-4	11-13	—	γ
85	F.	20	12	17-12	15-14	12-11	15-15	12-10	8-6	20	4-2	34	12-11	16-16	—	γ
86	F.	70	14	7-10	15-12	14-12	12-12	8-10	3-4	18	1-2	35	7-5	12-10	—	γ
87	F.	68	16	16-15	18-19	15-14	16-15	9-8	½-1	18	1-½	28	8-10	15-14	—	β
88	F.	55	16	9-12	10-11	16-15	17-17	9-18	½-1	23	7-7	40	5-11	15-16	—	β
89	F.	65	15	16-16	12-13	14-12	9-10	10-10	4-5	14	4-4	26	8-8	16-14	—	α
90	M.	25	15	6-16	15-15	14-10	16-18	12-20	2-3	22	1-2	39	9-8	18-18	—	α
91	F.	27	10	6-6	15-14	11-8	14-14	8-8	3-3	19	6-6	40	—	10-12	—	β
92	M.	71	15	16-16	13-12	13-14	12-12	16-16	2-2	14	1-6	33	9-10	8-10	—	α
93	M.	55	14	9-5	13-12	12-11	13-13	7-11	3-3	18	4-2	40	6-2	12-13	—	α
94	F.	80	17	2-8	12-14	19-12	10-9	5-12	1-1	20	3-3	33	9-7	10-16	—	β

α Cerebellar fossæ large.

α Irregularity of frontal.



TABLE—continued.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	—
132	M.	40	22	14-15	8-12	14-14	18-16	16-17	6-6	27	4-2	52	13-9	12-18	—	γ
133	M.	40	15	15-15	16-18	12-13	15-15	11-12	4-5	20	4-4	38	5-9	14-21	—	β
134	F.	30	12	12-10	12-16	9-10	16-14	4-4	1-1	16	3-3	34	12-10	15-17	—	α
135	M.	28	16	20-18	16-15	15-14	18-16	13-17	4-4	20	2-2	32	11-12	15-16	—	α
136	F.	32	12	17-18	12-14	11-12	14-14	12-9	1-1	18	4-4	28	9-8	12-13	—	α
137	F.	45	20	14-9	14-16	13-13	16-15	14-14	2-	22	4-4	31	8-8	19-16	—	α
138	M.	42	16	16-12	6-8	12-10	8-17	9-12	2-1	16	4-2	28	6-4	11-12	—	α
139	M.	65	15	10-10	10-10	14-14	13-14	14-11	2-1	19	2-2	37	12-10	12-13	—	α
140	F.	40	20	15-12	12-14	20-20	13-12	9-11	2-3	17	4-4	36	8-10	10-12	—	γ
141	M.	75	18	10-12	12-14	20-18	16-15	11-13	1-2	20	2-2	28	8-9	13-11	—	α
142	F.	78	15	10-10	12-12	20-16	15-15	16-8	1-1	21	1-1½	40	10-10	14-12	—	α
143	F.	75	16	9-12	12-12	10-12	11-10	6-9	2-2	18	3-1	30	9-7	15-14	—	α
144	F.	78	26	21-20	26-28	21-23	24-28	18-14	4-4	28	4-4	40	16-16	24-27	—	α
145	M.	60	16	16-17	12-11	12-11	14-15	14-14	4-4	24	6-6	50	11-10	13-15	—	α
146	M.	70	15	18-19	12-12	16-18	13-15	10-6	2-3	24	1-1	22	7-12	19-15	—	α
147	M.	40	20	4-8	11-11	12-13	12-12	13-16	1-4	20	3-2	34	8-8	18-18	—	γ
148	M.	74	20	10-11	12 17	14-14	12-14	18-18	3-2	19	4-2	44	10-9	11-11	—	α
149	M.	70	20	10 0	11 10	13 14	17 18	13 14	3 4	23	4 2	37	10 11	11 10	—	α

150	F.	70	16	5-8	20-22	14-15	16-16	11-10	1-1	32	1-2	38	12-13	11-10	—	a
151	M.	65	19	13-16	14-17	13-18	11-16	12-14	10-7	18	6-6	53	12-13	18-18	—	a
152	M.	70	20	11-14	16-17	17-17	14-16	14-9	4-5	23	1-1	26	8-8	12-11	—	—
153	M.	68	18	8-8	8-11	10-13	12-16	18-16	4-3	25	5-6	50	13-13	15-14	—	—
154	F.	84	20	14-13	9-10	13-13	20-18	15-16	1-3	19	2-3	44	16-13	14-16	—	—

SUMMARY.

Age	A	B	C	D	E	F	G	H	I	J	K	L	M
53.5	2598.8	1642-1675	2224-2307.9	2218-2126.8	2298,5-2283	1664-1772	437-431.9	2883	567-550.5	4102	1115-1098	1529-1568	2172
	154	131-132	153-154	154	150	137-135	136-134	143	124-123	137	105	103	48
	16.87	12.5-12.7	14.5-14.3	14.4-13.7	15.2-15.2	11.4-13.1	3.2-3.16	20.1	4.57-4.4	23.3	16.6-10.4	14.8-15.2	45.2

The first column represents the mean of the ages—i.e., 53.5.

The first line represents the sum of the measurements.

The third line represents the mean of the measurements.

a Outer occipital protuberance higher than the inner.

b Large frontal sinuses.

c The inferior longitudinal sinus passes to right lateral.

d The outer occipital protuberance higher than the inner.

e The outer occipital protuberance much higher than the inner.

f A well-marked ridge sinus across the inferior fossa of the occipital bone.

TABLE—continued.

No.	Sex	Age	A	B	C	D	E	F	G	H	I	J	K	L	M	—
132	M.	40	22	14-15	8-12	14-14	18-16	16-17	6-6	27	4-2	52	18-9	12-18	—	γ
•133	M.	40	15	15-15	16-18	12-13	15-15	11-12	4-5	20	4-4	38	5-9	14-21	—	β
134	F.	30	12	12-10	12-16	9-10	16-14	4-4	1-1	16	3-3	34	12-10	15-17	—	α
135	M.	28	16	20-18	16-15	15-14	18-16	13-17	4-4	20	2-2	32	11-12	15-16	—	α
•136	F.	32	12	17-18	12-14	11-12	14-14	12-9	1-1	18	4-4	28	9-8	12-13	—	α
137	F.	45	20	14-9	14-16	13-13	16-15	14-14	2-	22	4-4	31	8-8	19-16	—	α
138	M.	42	16	16-12	6-8	12-10	8-17	9-12	2-1	16	4-2	28	6-4	11-12	—	α
139	M.	65	15	10-10	10-10	14-14	13-14	14-11	2-1	19	2-2	37	12-10	12-13	—	α
•140	F.	40	20	15-12	12-14	20-20	13-12	9-11	2-3	17	4-4	36	8-10	10-12	—	γ
•141	M.	75	18	10-12	12-14	20-18	16-15	11-13	1-2	20	2-2	28	8-9	13-11	—	α
142	F.	78	15	10-10	12-12	20-16	15-15	16-8	1-1	21	1-1½	40	10-10	14-12	—	α
143	F.	75	16	9-12	12-12	10-12	11-10	6-9	2-2	18	3-1	30	9-7	15-14	—	α
144	F.	78	26	21-20	26-28	21-23	24-28	18-14	4-4	28	4-4	40	16-16	24-27	—	α
145	M.	60	16	16-17	12-11	12-11	14-15	14-14	4-4	24	6-6	50	11-10	13-15	—	α
•146	M.	70	15	18-19	12-12	16-13	13-15	10-6	2-3	24	1-1	22	7-12	19-15	—	α
•147	M.	40	20	4-8	11-11	12-13	12-12	13-16	1-4	20	3-2	34	8-8	13-13	—	γ
148	M.	74	20	10-11	12-17	14-14	12-14	18-18	3-2	19	4-2	44	10-9	11-11	—	α
149	M.	70	20	10-9	8-10	13-14	17-18	13-18	3-4	23	2-2	37	10-10	8-10	—	α

150	F.	70	16	5-8	20-12	14-15	16-16	11-10	1-1	32	1-2	38	12-13	11-10	—	a
151	M.	65	19	13-16	14-17	13-13	11-16	12-14	10-7	18	6-6	58	12-13	18-13	—	a
152	M.	70	20	11-14	16-17	17-17	14-16	14-9	4-5	23	1-1	26	8-8	12-11	—	—
153	M.	68	18	8-8	8-11	10-13	12-16	18-16	4-3	25	5-6	50	13-13	15-14	—	—
154	F.	84	20	14-13	9-10	13-13	20-18	15-16	1-3	19	2-3	44	16-13	14-16	—	—

SUMMARY.

Age	A	B	C	D	E	F	G	H	I	J	K	L	M
	2598.8	1642-1675	2224-2307.9	2218-2126.8	2298.5-2283	1664-1772	437-431.9	2883	567-550.5	4102	1115-1098	1529-1568	2172
53.5	154	131-132	153-154	154	150	137-135	136-134	143	124-123	137	105	103	48
	16.87	12.5-12.7	14.5-14.3	14.4-13.7	15.2-15.2	11.4-13.1	3.2-3.16	20.1	4.57-4.4	23.3	16.6-10.4	14.8-15.2	45.2

The first column represents the mean of the ages—i.e., 53.5.

The first line represents the sum of the measurements.

The third line represents the mean of the measurements.

- a Outer occipital protuberance higher than the inner.
- b Large frontal sinuses.
- c The inferior longitudinal sinus passes to right lateral.
- d The outer occipital protuberance higher than the inner.
- e The outer occipital protuberance much higher than the inner.
- f A well-marked ridge sinus across the inferior fossa of the occipital bone.

In a few cases casts of the interior of the skull were made to determine how far the convolution markings would indicate the position of the fissures. From a study of these it was seen that the convolutions of the temporo-sphenoidal lobe and the lower surface of the frontal were repeated in their cast, but the upper surface of the cast was nearly smooth in many cases.

The mean of the observations in each case is given. It will be seen that although in many cases the thickness on one side exceeds slightly that of the other, yet the mean of one side does not differ materially from that of the other. The thickest skull was that of a female, aged 78, No. 144; but the three succeeding were males. The thinnest skulls in the above list were those of three females. These remarks, however, do not apply to all the measurements. And it must be remembered that the number of female subjects was in excess of the number of the males. A single measurement is not an indication of the general thickness, for in No. 84 the inferior occipital fossæ have a very thin bony wall.

The weight of the brain does not seem to bear any relation to the thickness of the skull. This, however, does not affect the statement that the skull thickens when the brain diminishes.

ART. XL.—*The Invasion of Inanimate Material by Granulation Tissue.* By C. B. BALL, M.D., F.R.C.S.I.; Surgeon to Sir P. Dun's Hospital.

IN a very interesting paper published in *The Edinburgh Medical Journal* for last November, Mr. D. J. Hamilton describes his experiments upon what he has called sponge grafting, in which he states that he was led to make these observations as a result of his investigations on the so-called organisation of blood-clots. His opinion is, that the part played by a blood-clot which becomes adherent to a healing wound is purely mechanical, the fibres simply acting as a support to the granulations and capillary loops projected into it from the adjoining surfaces; and that his experiments to substitute for the very friable blood-clot sponge which had been prepared by steeping in dilute nitro-hydrochloric acid, and afterwards washed in liquor potassæ, and carbolised, met with very great success. As the organisation of blood-clot is not by any means common, and its existence even doubted by some authorities, am induced to record the two following well-marked cases, and,

in addition, one in which a cutaneous slough and another in which a portion of the tibia apparently necrosed, became the matrix of cicatricial tissue.

CASE I.—A girl, aged fifteen years, suffered from necrosis of the nasal bones; also a considerable portion of the septum and of the upper turbinated bones; the soft parts over the upper part of the nose were also destroyed. After separation of the sequestra, an opening was left into the nasal cavities, measuring one inch in length by three-quarters of an inch in breadth, the apex and alæ remaining intact. In order to remedy this I performed a rhinoplastic operation in November, 1877. A wax model having been made of the portion which required to be replaced was moistened with a solution of nitrate of silver, and pressed against the opening the day before the operation; it was then softened in warm water, again moistened with nitrate of silver, and flattened upon the forehead, so that by the time of the operation we had the portion necessary to be vivified, and the size of the flap accurately delineated. The flap was raised from the forehead, leaving about the eighth of an inch all round the marked portion to admit of contraction; the neck attaching the flap was over the right eyebrow, and a channel was cut over the frontal spine to receive the neck, the flap having been accurately fixed in position, the edges of the wound in the forehead were approximated as much as possible by means of a harelip pin, but a considerable space intervened. The dressings were of carbolic oil, Listerian precautions being, of course, useless owing to the nature of the case; on the first dressing, two days after the operation, the space in the forehead was completely filled with a moderately firm blood-clot; the same dressings were continued. Of the after-history of the case it is only necessary to state that the clot remained *in situ*, that it bled when scratched on the ninth day. The pin was removed on the tenth day, the portion intervening between the edges of skin being at the time completely covered by granulation tissue, and the flap united all round by first intention. The entire surface was skinned over in six weeks from the date of the operation. The resulting cicatrix in the forehead was perfectly smooth, neither wrinkled nor contracted, and is invisible in a photograph which was taken six months afterwards.

CASE II.—A man, aged forty-two, came under my care, in May, 1875, for an epitheliomatous ulcer, about the size of a shilling, on the under-side of the heel. This was deeply excised, the resulting wound extending down to the periosteum. Listerian precautions were strictly adhered to. As, owing to the density of the tissues, it was impossible to bring the edges together, it was left to granulate, and on removing the protective, the second day after operation, a clot was found filling the

space, and projecting slightly above the level of the skin. On the fifth day it felt firm and adherent, but somewhat contracted, and bled when scratched on the eleventh. Cicatrisation progressed rapidly, the resulting cicatrix being smooth, but slightly depressed. In this case the deeper portions of the wound were never visible after the operation.

CASE III.—On July 30th, 1882, I saw a lady who, three weeks previously, had her knee bruised in a carriage accident. There was a dry slough, about the size of a shilling, on the inside of the knee, surrounded by a ring of ulceration. The edge of the slough was undermined, there being granulations underlying, but it was adherent in the middle. I dressed with etherial solution of iodoform to render it aseptic, and applied boracic lint and ointment, fully expecting the slough would completely separate in a few days; instead, however, at the next dressing, two days later, it was more adherent, and by August 9th it had become quite re-attached. In the centre small red points were to be seen, which bled when pricked. The healing edge, however, made no attempt to spread over the surface of the slough, but rather manifested a tendency to pass under it. This being the case, I considered that healing would be hastened by the forcible removal of the adherent slough, which was accordingly done, after which cicatrisation proceeded normally.

In some of the cases of sponge-grafting, as recommended by Mr. Hamilton, which I have seen, the same disinclination of the healing edge to pass over the sponge, although adherent and filled with granulation, existed; and in one case, under the care of my colleague, Dr. T. E. Little, the epidermal margin passed under and detached a piece of sponge which had remained a long time adherent.

CASE IV.—A soldier, at present under my care in Sir Patrick Dun's Hospital, was knocked down by a tram car on the 18th of August. A large flap of integument was detached from the front of the leg, immediately below the knee; the muscles were much lacerated, the ligamentum patellæ frayed, a considerable portion of the periosteum peeled off the front of the tibia, and the tissues injured by brush-burn, caused by friction along the tram line. It was well washed with carbolic lotion (1-20), and dressed antiseptically. It, however, rapidly became septic, and was then well drenched with pure oil of eucalyptus, after which there was no difficulty found in maintaining it in a thoroughly aseptic condition. Upon separation of the sloughs, about two inches of the tibia were exposed, white, with no trace of blood-vessels to be seen, and apparently quite dead. As granulation progressed, however, small red



lines and points appeared in the bone. Now, September 25th, only a piece of bone about the size of a shilling is exposed, studded with granulations, varying in size from a pin's head to a split pea, the rest of the bone having been covered in by granulations in part springing from the bone itself, and partly encroaching from the surrounding tissues, and I have no doubt that there will be only the most trivial exfoliation, if any at all.

All surgeons are familiar with the way in which small surfaces of exposed bone, especially of the cranium, become occasionally covered up in granulation tissue without exfoliation, but that such a large piece should be so imbedded is, I think, due to the patient being young and vigorous, and that the wound has latterly been maintained in a thoroughly aseptic condition. I think we are justified in concluding that these cases are as much an invasion of inanimate material by granulation tissue as in the sponge-grafting of Mr. Hamilton.

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#### CHANGES IN THE FUNDUS OCULI IN ANÆMIA.

DR. SAUNDBY and MR. EALKES of Birmingham have examined in fifty cases the state of the fundus in simple chronic anæmia, or chlorosis, as seen in young women. Their observations were made in order to determine the frequency with which the changes, such as optic neuritis more especially, and the like, signalled by Hirsehberg, Gowers, and others, may be found, and to discover whether these or any other changes occur insidiously, or without giving rise to subjective symptoms likely to direct the attention of the patient to the state of her eyes. Excluding two cases necessarily, sixteen out of the fifty cases were left which presented some abnormal appearance of the fundus, and, while allowing that in the greatest number the changes were indecisive and of little moment, in five, or, in other words, in ten per cent. of the whole number, they were unequivocal, while in eight per cent. there was evidence of some degree of neuro-retinitis. This proportion is certainly very striking, and indicates that some degree of change of this nature is much more common than would be suggested by the very small number of cases hitherto reported. Acuity of vision, it is noticed, does not appear to be affected by anæmia. The authors suggest that a failure of light-perception, noted in many of the cases, may possibly be one factor in the production of the dilated pupil so general in chlorotic girls.—*The Ophthalmic Review*, September, 1882.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Lectures on the Diagnosis and Treatment of Diseases of the Chest, Throat, and Nasal Cavities.* By E. FLETCHER INGALS, A.M., M.D. London: Sampson, Low, Marston, Searle, & Rivington. 1881.

THIS is an excellent practical work, calculated to be highly useful both to students and to teachers in the subjects of which it treats. It is stronger in diagnosis than in therapeutics—the latter having been altogether absent from the lectures, as originally delivered, on which the work is based. The separation of diagnosis from treatment is characteristic of much of the teaching of the present day. We are old-fashioned enough to disapprove the modern tendency to exaggerate the importance of differential diagnosis, and comparatively to depreciate the art of healing; and we are glad that Dr. Ingals, in tenderness perhaps to the superstition of the weaker brethren of the profession, who like to cure their patients as well as to know what ails them, has added to his original matter, even in brief outline, “the proper treatment for the various affections.” Of the 33 lectures, of which the course consists, 14 are devoted to pulmonary affections, 8 to cardiac and aortic diseases, and the remaining 11 to diseases of the fauces, larynx, and nasal passages.

The first eight lectures are devoted to the methods of physical examination of the lungs. There is some truth in the remark that of the six enumerated “principal methods”—inspection, palpation, mensuration, succussion, percussion, and auscultation—the “majority of physicians” confine themselves to auscultation. Certainly, many rely almost altogether on this method with percussion. We could cheerfully dispense with our old acquaintance, succussion; but we suppose no text-book can be considered complete without it, if it were only in compliment to Hippocrates. For our own part, we should have been well content if it had been buried or cremated with the venerable Greek. Does anyone ever

succuss a patient? Would shaking him extort any information which could not be obtained by milder means? When all that can be said for it is that it was "known to Hippocrates," that it "is of value in the single disease, pneumo-hydrothorax," and that the quality of the sounds elicited "is not usually sufficiently distinctive to aid us materially in our diagnosis," the process may be allowed to sink into oblivion. If our author's account of the "cracked-pot sound" on percussion be accepted, this physical sign may well accompany succussion. It is not, he says, diagnostic of a cavity, "for the sign may occasionally be obtained when no cavity exists, and sometimes even in healthy individuals." And, moreover, "something closely resembling this resonance is very likely to be heard during percussion if the pleximeter is placed lightly against the surface, so that air remains beneath it, which is suddenly forced out by the blow." The mention of the pleximeter suggests a peculiarity of modern medicine, which indeed follows from the enthusiastic worship of the great goddess Diagnosis—namely, the extensive application of machinery to the examination of patients. The assortment of scopes, meters, and graphs which constitute the modern diagnostic's *armamentarium medicum*, is appalling. In the pulmonary section of Dr. Ingals' work we are introduced to the following engines, besides the indispensable pleximeter, with its hammer, and the ordinary harmless, necessary, stethoscope:—Quain's stethometer, Carroll's stethometer, Flint's cyrtometer, Gee's cyrtometer, Allison's stethogoniometer, Hutchinson's spirometer, Hammond's hæmadynamometer, the plessigraph ("devised by Dr. Michael Peter, of Paris—a small cylindrical piece of wood, about four inches in length and five-eighths of an inch in diameter, with a disc at one end, on which percussion is to be made"), Camman's stethoscope for auscultatory percussion, Ingals' emballometer, Knight's stethoscope, and Allison's binaural stethoscope. With all this machinery the accomplished physician cannot fail to know all that is going on inside his patient's chest, as well as if, to use a proverbial expression, he "had been through him with a candle." To a practitioner of the old school, accustomed to use the homely finger for a pleximeter, and even to prefer immediate to mediate auscultation where practicable, all this mechanical business does not, somehow, seem "practical;" and our author himself tells us that "in examining the lungs the ear alone is sufficient." On the whole, however, we commend to learners the pages devoted to auscultation, beginning with the

practical rules given on p. 51. One feature of this part of the work is especially valuable—the illustration by woodcuts, coarse but effective, of the conditions of the lung-structures productive of the various morbid auscultatory sounds. We could have wished, by the way, that, in classifying these sounds, Dr. Ingals had not used *rhonchus* (or *ronchus*, as he prefers to spell it) as synonymous with *râle*, instead of retaining the word in its old signification of a *large* dry sound.

After eight lectures discussing the methods of physical examination of the lungs and the results of its employment, we find six lectures allotted to special diseases. The brief paragraphs devoted to treatment in these chapters are, as might be expected from their adventitious character, snippy and unsatisfactory. Fifteen pages are allotted to pulmonary phthisis, under which term are included “all those chronic, wasting affections which are attended with exudation or infiltration into the pulmonary parenchyma, causing consolidation, and attended or followed by more or less induration and contraction, and subsequently by breaking-down of lung-tissue . . . whether these diseases be the result of a simple inflammatory affection, or be the cause or the result of tubercular infiltration. The term pulmonary phthisis will, therefore, include fibroid phthisis and the ordinary acute and chronic forms of phthisis, or of pulmonary consumption.” This is an extensive programme to be executed in fifteen pages, even with the pathology of the disease, or group of diseases, left out. Dr. Ingals, like others of his brethren, does not believe in the finality of the current—if any current there be—views of the pathology of phthisical diseases. “The views entertained,” he says, “on the pathology of the various forms of phthisis to-day by a portion of the profession are not those which were generally accepted a few years since, and they are themselves likely to be supplanted by others within the next decade; therefore, we may well avoid this difficult subject until pathologists can more nearly agree.” Dr. Ingals is wise. Two pages and a half are devoted to treatment of phthisis, but in these there is nothing new or noteworthy. The growing belief in the communicability of the disease from a patient to healthy attendants is shown by the heading “Infective Phthisis,” “which not infrequently affects those who have been for a long time exposed to the exhalations of phthisical patients.”

In the eight lectures on the Heart and Aorta we are surprised to find so little regard for diagnostic machinery. Even the orthodox

sphygmograph, though it gives us "an accurate graphic statement of the condition of the circulatory system, written, so to speak, by the heart itself," is not represented as worth very much:—"So much depends upon the adjustment of the instrument, its proper working, and the pressure made upon the artery, that, up to the present time, the instrument has been of little clinical value." We have the usual illustrations showing sphygmographic tracings in various normal and morbid conditions, but "we learn that the sphygmographic trace is not diagnostic of any disease," though "the general appearance of the curve may indicate special conditions." We can get on very well, however, without the sphygmograph. And Lectures XVI. and XVII., on the Physical Examination of the Heart, by inspection, palpation, mensuration, percussion, and auscultation, are eminently practical and satisfactory; and the same may be said of the following lecture on Abnormal Sounds, which is illustrated by rough, but graphic, sections of the heart in auricular and ventricular systole. The differences between the important cardiac murmurs, with "a few hints concerning their differential diagnosis," are clearly given in Lecture XIX., in which venous derangements also are briefly mentioned. We observe, in the brief sketch of the treatment of pericarditis, that the use of salicylic acid in the rheumatic form of the affection is condemned, on the ground of its depressing effects on the heart. The pages on thoracic aneurism (240-245), though few, contain a valuable practical summary of the subject. The only methods of treatment mentioned are Tufnell's and the use of large doses of iodide of potassium, the latter relieving specially the neuralgic pains, and possessing the advantage of not being incompatible with moderate exercise.

The remainder of the volume, treating of diseases of the throat and nasal cavities, may be briefly dismissed. Of 157 pages laryngoscopy and the laryngoscope occupy no less than 30, and a description of the normal larynx and parts adjacent 15 more. Dr. Ingals speaks favourably of an old-fashioned treatment of croup—the use of large and repeated doses of calomel, but his experience of it has been insignificant. He recommends cold spray inhalations of lactic acid (gr. 20 to 3j.), and alum in emetic doses (gr. 30 to 60), when membrane has formed. Inhalation of atomised lime-water is said also to have done good after membrane has been exuded. For hay-asthma, irrigation of the nostrils with a two-grain solution of quinine, two or three times a day, is recom-

mended; or the insufflation of a powder containing 1 part of morphia, 1 of quinine, 20 parts of bismuth, and 38 of gum acacia. The patient should not blow his nose, or sneeze—the tendency to the latter indulgence being sternly coerced by pressure on the upper lip.

Many pages of Dr. Ingals' book are so curt and summary as to resemble a table of contents; but it is, in many respects, an excellent students' manual in the subjects of which it treats. To the more important of these we have drawn attention in the foregoing pages.

### *RECENT WORKS ON ORTHOPÆDIC SURGERY.*

*Lectures on the Pathology and Treatment of Lateral and other Forms of Curvature of the Spine.* By WM. ADAMS, F.R.C.S. London: J. & A. Churchill, New Burlington-street. 1882.

*On Anchylosis, and the Treatment for the Removal of Deformity and the Restoration of Mobility in Various Joints.* By BERNARD E. BROADHURST, F.R.C.S. London: J. & A. Churchill. 1881.

*Medical and Surgical Aspects of In-Knee (Genu Valgum).* By W. J. LITTLE, M.D., and E. MUIRHEAD LITTLE, M.R.C.S. London: Longmans, Green, & Co., Paternoster-row. 1882.

*The Surgery of Deformities.* By E. NOBLE SMITH, F.R.C.S., Ed. London: Smith, Elder, & Co., 15 Waterloo-place. 1882.

MR. ADAMS has issued a second edition of his very able and comprehensive lectures. The reputation which he has earned as a surgeon is well established, and in these lectures, now revised, will be found the matured experience which many years of laborious practice has given him. The chapter to which naturally one turns is that upon the treatment of the various forms of curvature, modified as that has been by the writings and energetic advocacy of Sayre, of New York. There can be no question that in very many cases the plaster-of-Paris jacket has been found more effective, cheaper, and simpler than the very elaborate and costly apparatus to which orthopædists invariably resorted a few years ago. Where the Sayre jacket fails unsucess is usually capable of being easily traced, and is due to its being applied in cases entirely unsuitable, or to its not being properly adjusted. In cases of angular curvature Mr. Adams entirely approves of this method, observing that—

“My experience has led me to confirm and endorse all that Professor Sayre has claimed for it.”

In lateral curvature of the spine, however, an indiscriminate use of the jacket often leads to disappointment. There we have to deal with three possible conditions:—1st, Physiological curves, depending upon muscular weakness or faulty position, and involving no structural change; 2nd, Commencing structural curves in which the intervertebral substance only has suffered from unequal lateral pressure; and, 3rd, Confirmed structural curves in which the intervertebral cartilages, the bodies of the vertebræ, and the oblique articulating processes have all undergone structural change. To apply the same treatment to all these is certain to lead to failure. In the first case, gymnastic exercises, partial recumbency, and attention to general health, are the lines upon which we should proceed. In the second there should be a combination of mechanical support, partial recumbency, and gymnastic exercise. In the third, while we may do much to prevent further mischief, during the period of growth, it must be borne in mind that confirmed lateral curvature, whether slight, as regards the external deformity, or severe, is essentially an incurable affection. Mr. Adams objects to the plaster-of-Paris jacket in these cases because it acts as an unnecessary restraint at night, and interferes with cleanliness and gymnastics. Here the poroplastic jacket, or an apparatus devised by the author, is useful, because it allows the patient to carry out the other parts of the treatment without impediment.

The whole subject is gone into in these lectures very thoroughly. We think all practitioners should make themselves acquainted with it, because the affections of the spine are very insidious, and sometimes are not recognised, owing to uninformed examination, until irreparable harm has been done. Many a patient may be saved the terrible deformities of the spinal column if only a larger number of the profession will make themselves acquainted with the means of diagnosis and the principles of treatment so admirably set out in these pages.

Mr. Broadhurst's work is in its fourth edition, and has already been favourably spoken of on more than one occasion. He has done very much to establish the practice of forcible flexion and extension of limbs in which the joints have undergone fibrous ankylosis. “More than one thousand operations of this description,” he says, “enable me to speak of them as among the most



successful in the whole range of surgery. I have never known inflammation to follow such an operation, nor have I ever experienced in any case fracture, neither rupture of any vessel, nor, indeed, an accident of any kind." The method which he employs is given at length, and the success which has attended it is illustrated by several very remarkable cases. This treatise is a valuable addition to our knowledge.

Those who are interested in the subject of Genu Valgum should read the book written by the Messrs. Little—father and son. Dr. Little, senior, is entitled, by his position, to pronounce an opinion with much authority, and his views upon the subject of this volume may serve as a wholesome restraint upon operating surgeons. There has been a great deal of active surgery about the knee of late years; and, as always follows when a new operation has been introduced, there are many surgeons very anxious to try it. We do not doubt that scores of condyles have been sawed off or chiselled off in the knee-joint that might have been left untouched, but we are by no means inclined to place unlimited confidence in any of the numerous apparatus devised for curing the deformity of knock-knee. The authors observe that they "had never met with a case that did not recover by the help of instrumental means alone. We dare not say that in all cases in which osteotomy had been performed the operation was unnecessary. We do, however, affirm that, from the descriptions of many cases which we have read, the operation was in a large number of cases unnecessary, and that in all the distortion should have been arrested in the earlier stage." They maintain that the deformity is not produced by an increased growth of the inner condyle; but that "deficiency of the external condylar parts of the femur and of the opposite articular surface of the tibia demand the most consideration, whatever be the method of treatment employed." The authors admit, however, "the necessity for osteotomy, with considerable bone curvature, during adolescence when they (the bones) have become eburnated, and when, from the extent of the curvature, the weight of the trunk to be borne by the limbs tends to augment the curvature of even the eburnated bones, and to cause displacement of the knee (genu valgum) and of the ankle (flat foot)." Their method of dealing with this affection is plainly set out, and cases are cited in proof of success. As giving another and important view of a complex question the book will well repay careful reading.

Mr. Smith's work deals with the whole subject of deformities, and will be found an excellent handbook. The arrangement, the illustrations, the printing, and the quality of what the author has given us, are all of a high class. We do not know any book which gives so good an account of orthopædic surgery in so small a compass.

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*The Diagnosis and Treatment of the Diseases of the Eye.* By HENRY W. WILLIAMS, A.M., M.D.; Professor of Ophthalmology in Harvard University, &c., &c.

WE have before us the newest production of American ophthalmology, and we may say that we are not favourably impressed by the volume. It is difficult to know what requirement the book is intended to fill, as its contents are not sufficiently condensed for the student, while they are far too sketchy and unreliable for the general practitioner, by whom the author seems to expect they will be studied. We are all, perhaps, quick to detect our own shortcomings in other people, but it is seldom that a writer offers to the public a criticism so precisely applicable to his own work as does Prof. Williams, on page 378, in a criticism of the modern method of education, when he says—"An author often encumbers his pages with useless elaboration or a repetition of exploded theories, wearying the learner's eyes and brain in the effort to separate the wheat from the chaff, instead of making it his duty to offer to the student a winnowed product."

The Professor, however, aims very high. He speaks with great confidence of the drugs of the future, and he has no doubt that his treatment is to supersede the bungling which is still perpetuated by less enlightened ophthalmologists. He may be right. His treatment may be the treatment of the future, but we are happy to say it is not the treatment of the present, nor do we fear any immediate adoption of it in this country, our practice being still so largely composed of what he designates "relics of barber surgery," that we are not likely to reach his level of progress without a struggle. The author has a panacea for every ophthalmic evil—viz., a 10-grain solution of borax—but beyond dropping this solution into the eyes, his feeling with regard to nearly every diseased condition may be fully expressed by quoting his advice (in this instance correct), concerning cholesterine crystals in the vitreous humour (page 298)—"These are to be let alone rather than meddled with." On many

points he runs counter to the tendencies of recent European practice. On page 133 he speaks at length as to the uselessness of calomel or other remedies applied locally to promote absorption of corneal optics, and elsewhere he speaks strongly against the use of calomel, or any powder, in the eye, completely ignoring the recent successful treatment of purulent conjunctivitis with powdered iodoform. He condemns the use of ointments in the conjunctival sac, while here they are, perhaps, more used than ever. He totally rejects acetate of lead as an astringent, and, among other old and trusted remedies, he practically discards nitrate of silver and mercury. Speaking of specific retinitis, he says mercurial inunction may, perhaps, be used; and, under the head of specific iritis, he says they may be safely dispensed with, "notwithstanding old traditions in their favour." From this it would be inferred that specific iritis is a more amenable inflammation in America than here; as, also, from the author's opinion that the patient is "generally safe from recurrence," while here recurrent attacks are not at all uncommon. The author has a dangerous weakness for myotics, which he uses nearly as frequently as the borax collyrium, even when iritis is present, employing an occasional drop of eserine to prevent adhesion. He condemns the use of atropine in affections of the cornea, believing that it increases the photophobia, and has no sedative effect. With reference to the effect of myotics and mydriatics on the tension of the globe, the author is very reserved, observing that the value of myotics in glaucoma is not established, but that atropine is believed to have caused a glaucomatous attack. He condemns the use of the compress bandage after operations, and, strange to say, makes absolutely no mention of the use of antiseptics in ophthalmic surgery.

With reference to operations, the author several times, and at some length, urges the adoption of optico-ciliary neurotomy—an operation little used in Europe—while he dismisses with a few lines the valuable operation of sclerotomy for glaucoma.

The chapter on paralysis of the intrinsic muscles of the eye is good, except for the treatment, which is as inefficient as in other parts of the book. We cannot help thinking that bay rum and spirits of rosemary applied to the brow and temples would prove of as little use in these affections as the author's treatment for atrophy of the optic nerve—namely, peppermint and oil of cloves applied on the same region.

The chapters on refraction are the best, but in places they show

careless writing. The statement on page 366—"Eyes may be regarded as myopic if their distant vision is improved by concave glasses" is, of course, most misleading. The author confuses amblyopia and asthenopia. Thus he speaks of correcting amblyopia by glasses; and in the chapter on asthenopia, having used the word repeatedly in its own sense, he speaks of congenital asthenopia without ophthalmoscopic changes where amblyopia is clearly what is intended.

In treating of the determination of ametropia by the ophthalmoscope no reference is made to the art of retinoscopy. Altogether, coming as it does from a school of such good and widespread reputation, the work is very disappointing.

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*Chronic Bronchitis; its Forms and Treatment.* By J. MILNER FOTHERGILL, M.D., Edin.; M.R.C.P.; Senior Assistant-Physician to the City of London Hospital for Diseases of the Chest, &c. With numerous Illustrations. London: Baillière, Tindall, & Cox. 1882. Pp. 158.

A WORK on so prevalent a disease as chronic bronchitis by so popular an author, is, doubtless, likely to attract attention. The present volume closely resembles in style its numerous predecessors from the same pen. It presents the same laudable recognitions of the teachings of his late father, and references to his own early fields of practice and former publications; the same "brilliant" word-picturing, mixture of slang, "tall-writing," facetiousness, and egotism; and the same skilful adaptation of other men's work to the subject in hand. It is in no disparagement of Dr. Fothergill's former writings, or of the present one, that these remarks are made. All of them that we have read are certainly more or less instructive; and, being "pleasant reading," may be dipped into with advantage by those practitioners to whom a closer study of more scientific and drier professional literature would be either irksome, or, perhaps, impracticable.

The book consists of four main chapters. In the first, the signs and symptoms of the disease generally, are well depicted, and their causation and significance clearly stated. The importance of estimating the condition of the right ventricle of the heart, and the consequences of obstruction to the pulmonic circulation linked with embarrassed respiration, are impressed upon the reader in language as forcible as the gravity of the subject demands. The

succeeding chapter is a review of the pathological changes found along with chronic bronchitis. It consists mainly of quotations from the writings of Rokitansky, Fuller, Peacock, Roberts, and of Wilks and Moxon; and therefore requires no comment here further than stating that he makes no reference to the important and valuable pathological researches of Hamilton, published in 1879 in the *Practitioner*. We reciprocate the hope Dr. Fothergill expresses that, in consequence of "the recent acquisition of beds at his hospital giving him the opportunity," he will be able to describe, "in a later edition of this work," the clinical relations of the pathological conditions in the two forms of bronchiectasis.

Dr. Fothergill describes (Chap. IV.) eight forms of chronic bronchitis. He is inclined to associate the "dry" form, or "bronchitis sec," with rheumatism of a chronic character; and states he has almost exclusively met it as an intercurrent condition in comparatively robust persons liable to winter cough, or the bronchitis of cold weather. Cirrhotic, emphysematous, degenerative, and mitral forms are treated of in connexion especially with the morbid changes outside and beyond the air passages themselves occurring in each form. In the degenerative form, "general tissue-rottenness, in plain Saxon," is the disease essentially. This, in Dr. Fothergill's opinion, is identical with the condition described by Dr. Basham in 1866, as existing in the cases of dropsy observed by him connected with disease of the heart and lungs. Several pages are devoted to a description of this "subtle process of cell-degradation," which is, we assume, identical with that commonly known to more prosaic authors as fatty degeneration, and as such is depicted, affecting various tissues, in the frontispiece taken from Dr. Basham's book.

The concluding chapter "On the Treatment of Bronchitis and its Complications" occupies 52 pages, one-third of the book, and is rather disappointing. Not only is nothing very novel in the way of treatment put forward, but many well-known measures, which have been found useful in the treatment of cases of chronic bronchitis, are ignored. Dr. Fothergill's plan of teaching bronchitic patients how to cough—viz., after an inspiration, and with shoulders fixed, is excellent. We noted it some years ago when he communicated it to the readers of the *Philadelphia Medical Times* about the same time as he made (as London correspondent to the same journal) his extraordinary statement as to the social position of certain of his fellow-practitioners, and their wives, in his own

country. We commend also his insistence upon attention to such apparently little matters in the case of bronchitic patients—who are a “chilly race”—as the importance of their having light warm clothing, and, when going to bed, a warm bed-room and warm night-shirt and sheets. The caution against the danger of cold water-closets, or any sudden chills, to these patients is likewise well founded. His general treatment may be summed up as follows:—Relieve vascular turgescence in the first instance by “relaxant” expectorants and diaphoretics (vin. antim., and liq. am. acet.; or pot. iodid. and liq. am. acet., &c.). When mucus is secreted, give stimulating expectorants, the most certain being ammonia, strychnia, and belladonna; and supply nutritious, easily-digestible food, aided by a liberal quantity of good wine, to maintain the strength. When belladonna or strychnia are doing good, Dr. Fothergill pushes them; and while not neglecting the import of toxic symptoms produced by them in large doses, he is not deterred from continuing them by such “bugbears.” He recommends the following combination:—Liq. atropiæ sulphat., ℥ i.–ij.; liq. amm. anisatus (*sic*), ℥ xv.–xx; aq. ʒi.; ter in die. (The liquor ammoniæ anisatus, Prussian Pharmacopœia, is prepared by adding oleum anisi ʒiij. and liq. ammoniæ fort., ʒiij. to sp. vini rectific., ʒxij.) His ordinary prescription for chronic bronchitis is:—℞. Amm. carb., gr. v.; tinct. nucis vom., ℥ x.; tinct. scillæ, ʒss.; inf. serpentariæ, ʒi.; ter in die. If the right ventricle is overtaxed, ten minims of tincture of digitalis is added. He is “dead against opium” in cases of respiratory embarrassment, and, as a rule, he is right. But his explanation that when resorted to in small doses “from its effects upon the *finer* processes in the liver,” opium “tends to starve the heart and diaphragm in the hour of trial,” seems rather fine drawn. The night-draught Dr. Fothergill recommends in cases of embarrassed respiration is bromide of ammonium with tincture of hyoscyamus, half a drachm of each. Often “a little pronounced” night-cap—*e.g.*, two ounces of brandy, or its alcoholic equivalent—he says, achieves the desired end better.

The “numerous illustrations”—twelve in reality, in addition to the frontispiece, which is wrongly placed—are mostly borrowed ones; and, with one exception, are, we believe, woodcuts executed by an artist, Mr. Hanlon, formerly well known in this city to many of our readers, by whom he is now much missed. In connexion with these woodcuts there is one thing we regret to observe, and that is their needless repetition. One is reproduced four times,



another thrice, and two, twice. This represents altogether a space of at least three full pages of letter-press—a new departure in the art of book-making that even in the case of such an author as Dr. Fothergill is suggestive.

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*Indigestion, Biliousness, and Gout in its Protean Aspects. Part I., Indigestion and Biliousness.* By J. MILNER FOTHERGILL, M.D. London: H. K. Lewis, 136 Gower-street. 1881. Pp. 320.

A BOOK written in a pleasant style, and conveying a fair amount of information in a somewhat popular manner. The author is indebted (and acknowledges it) for much of his information to the learned treatise of Dr. Wickham Legg on "Bile, Jaundice, and Bilious Diseases."

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*Scrofula and its Gland Diseases; an Introduction to the General Pathology of Scrofula, with an account of the Histology, Diagnosis, and Treatment of its Glandular Affections.* By FREDERICK TREVES, F.R.C.S., Eng. London: Smith, Elder, & Co., 15 Waterloo-place. 1882 Pp. 202.

THE author defines scrofula as a tendency in certain individuals to inflammations of a peculiar type. Some of the principal features of scrofulous inflammation are the chronicity of the process, the slight irritations that may induce it, its tendency to extend locally and by continuity of tissue, and the remarkable and constant manner in which it involves lymphatic tissue.

There is a difficulty in isolating scrofula from other manifestations of ill-health which seems greater to the author than to some others. He is not inclined to regard it, with Henle, as the receptacle into which we vaguely cast all the ailments which afflict children under fourteen years, and of which we do not know the cause.

Under the head of the ætiology of scrofula attention is directed to the opinion that the great majority of cases of scrofula among the rich are due to heredity; the children of the wealthy not being exposed to the exciting causes of "parochial struma," or, as Grancher terms it, of "la scrofule à misériâ."

The common sets of glands in the body to be the seats of scrofulosis are the cervical glands, the bronchial glands, and the mesenteric glands, and it is significant that these organs correspond to the most extensive collections of adenoid tissue in the body—viz.,



those situated in the nasopharyngeal mucous membrane, the lining of the bronchi, and the inner coat of the intestine. The less frequent implication of the axillary and inguinal glands would seem to be connected with the scarcity of adenoid tissue in the limbs.

The first indication in the treatment of scrofulous glands is to surround the patient with the best possible hygienic conditions; among drugs, cod liver oil and iodide of iron rank highest in utility. As to local measures, every source of peripheral irritation should be removed as soon as possible. All handling of the glands should be avoided; pus is to be evacuated as early as practicable, and poultices deferred till after the skin has given way or been punctured; applied before this time they encourage the formation of an abscess apt to be attended by undermining.

The local effects of iodine depend upon an improved blood supply to the parts, and are injurious in the early stages, or where inflammatory processes are active. It is most useful in the gland diseases of adults. The author thinks highly of the *unguentum plumbi iodidi*, gently rubbed into the part for some five minutes night and morning. The operative measures are discussed at length—viz., excision, scooping, cautery puncture, interstitial injection, seton, electricity, and subcutaneous laceration.

Four plates at the end of the volume are from drawings prepared by an author for an article on "Scrofula," in "Holmes' System of Surgery."

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*On Chorea and other Allied Movement Disorders of Early Life.*  
By OCTAVIUS STURGES, M.D. London: Smith, Elder, & Co.,  
15 Waterloo-place. 1881. Pp. 198.

THIS is a close and well-written book, the information in it condensed and methodically arranged. Circumstances prevented our making an earlier notice of it. As to the connexion between rheumatism and chorea, the author's conclusions do not tell in favour of that intimate relation between them which some contend for. In the chapter on the heart-symptoms of chorea the author mentions, with approval, Dr. Nixon's\* views as to the faulty adjustment of valve and ventricle in the causation of functional murmur. The heart-symptoms of chorea—the early irregularity, the variable mitral murmur, the very frequent acceleration of heart and pulse with frequent fluctuations in the rate of both—go not with the

\* *Dub. Jour. Med. Sci.* Vol. LV., p. 572, &c.

form or degree of the chorea, but with the age of the patient. These cardiac symptoms are observed in young children most of all, in older children somewhat less, in adults hardly at all.

The author has succeeded in collecting eighty cases of death in connexion with chorea, or at least with convulsions resembling and called chorea. One of the most striking points thence arrived at is the large proportion of adults and the small proportion of children who die of it. Puberty appears to be the age of fatal chorea; it is oftener fatal in females than in males. Acute rheumatism appears in a certain number of cases as a cause of fatal chorea. The morbid anatomy of chorea consists in vegetations, new or old, on the auricular surface of the mitral valves, with or without similar deposit on the aortic valves; sometimes there is pericarditis. In some of the most marked and typical cases of fatal chorea the valves of the heart have been found absolutely healthy.

The chapter on the pathologies of chorea and that on the application of these pathologies will repay attentive study. The treatment and prevention of chorea are discussed at length.

A good index adds to the qualifications of a useful handy book.

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*Memorandum of Facts and Considerations relating to the Practice of Scientific Experiments on Living Animals, commonly called Vivisection.* London, June, 1882. Pp. 15.

THE Association for the Advancement of Medicine by Research has done good work in publishing this important pronouncement on vivisection, commonly so-called. The list of office-bearers of this lately-founded Association, appended to the memorandum, cannot fail to carry weight with it. The presidents are Sir William Jenner, Bart., M.D., F.R.S., and Sir Erasmus Wilson, F.R.S. The vice-chairman is Sir James Paget, Bart., F.R.S. The treasurer is Dr. Samuel Wilks, F.R.S., and Dr. Pye-Smith acts as honorary secretary.

At the outset, exception is taken to the term "Vivisection." "As a question-begging epithet, it produces an unfounded prejudice against experiments, of which the majority are painless, and of which the object is to relieve the sufferings of both man and brutes. Moreover, the term is at once too narrow and too wide: too narrow, since it excludes painful experiments which do not involve cutting, such as exposure to disease; and too wide, since it includes painful procedures upon animals for other than scientific or humane objects;

for food, as in preparation for the table; for convenience, as in horse and cattle breeding; or for amusement, as in certain sports. The same operation which, if performed for the acquirement of knowledge, is called a vivisection, is not called a vivisection when performed for a less worthy object."

The extent, methods, and objects of medicine; its recent advances, its dependence on physiology and pathology, are pointed out, and in terse and convincing language the necessity of experiments for progress in natural science is insisted on.

We cannot do better than reprint in detail the facts and conclusions relating to the practice of scientific experiments on living animals which have been collected by the association.

The real objects of such experiments are shown to be as follows:

*I. To extend, correct, and define our knowledge of the functions of the living body.*

Even apart from ulterior advantage to medicine, physiology must be held to be a branch of science of at least equal importance with chemistry or geology; and to be successfully cultivated, it must be cultivated for its own sake, without perpetual or premature inquiry as to the immediate and material results which increased knowledge of the laws of Nature will bring. In physiology, as in other natural sciences, the investigator must have primarily in view the discovery of truth; for, in the words adopted by the Royal Commissioners, "if in the pursuit of science he seeks after immediate practical utility, he may generally rest assured that he will seek in vain." There must be, to quote the words of an older authority, "light-bearing," as well as "fruit-bearing experiments."

As examples of this first kind of experiment, and of their success in extending useful knowledge, we may refer to the following:—

1. The great discovery of the circulation of the blood by Harvey, the first-fruits of the experimental method.\* Upon this as the

\* Some persons have ventured to deny that Harvey's discoveries were due to vivisection, on the faith of a reported statement of his to the Hon. Robert Boyle (another eminent vivisector), and in contradiction to Harvey's express words. Others have denied that the circulation was proved by vivisection, because Harvey having proved all but one point by a series of experiments on living animals, Malpighi completed the demonstration by another experiment on another living animal. The full account of the matter is contained in Harvey's own treatise, *De Motu Cordis et Sanguinis*. It is briefly referred to in the article "Harvey" of the *Encyclopædia Britannica*, and in the evidence of Professor Turner, of Edinburgh, before the Royal Commission (Blue Book, pp. 157, 158), where also are given the account of the discovery by vivisection of the great system of lymphatic vessels, by Aselli and Pecquet, and of the discovery of motor and sensory nerves by the same means by Bell and Magendie.

foundation depends all the subsequent progress in the surgical treatment of hæmorrhage and of aneurisms, and the recognition and treatment of diseases of the heart, the arteries, and the veins.

2. The discovery of the effects of electricity on animals by Galvani and Volta, from which have resulted not only the development of one great branch of electrical science, but also important means of diagnosis and treatment in cases of paralysis. <sup>a</sup>

3. Artificial respiration, invented and improved in the case of animals with purely scientific objects by Vesalius, Hooke, Lower, and others, and long afterwards applied with complete success to resuscitation from drowning.

4. The experiments of the Rev. Dr. Hales on pressure of the blood in the arteries.

5. Those of Boyle, Hooke, Mayow, and other natural philosophers on respiration.

6. Transfusion of blood from one animal to another, accomplished by Sir Christopher Wren and others of the early Fellows of the Royal Society in the seventeenth century, but only recently, owing to fresh physiological knowledge, applied with success to the saving of human life.

7. Experiments by a committee of physicians at Dublin, in 1835, showing the way in which the sounds that attend the action of the heart are produced, and enabling physicians to judge of the condition of the organ by the alterations of the sounds.

8. The discoveries of reflex action and of the separate endowments of motor and sensory nerves,<sup>b</sup> on which much of our present knowledge of the functions and disorders of the nervous system is founded.

9. The discovery of vasomotor nerves.

## II. *To obtain direct and exact knowledge of the processes of disease.*

The following examples may be cited:—

1. Experiments relating to the nutrition of the body and the maintenance of its constant temperature constitute the basis of the existing knowledge of fever.

2. Experiments relating to the mechanism of the circulation, and to the influence of the nervous system thereon, have served

<sup>a</sup> See on this subject the interesting details in Dr. Dalton's *Lectures on the Experimental Method in Medical Science*. New York, 1882.

<sup>b</sup> On the subject of Sir Charles Bell's discoveries by means of vivisection, see the account by Dr. Dalton in the *Lectures* above quoted, and the paper by Dr. Carpenter in the *Fortnightly Review* for February, 1882.

to explain the nature and mode of origin of the various forms of dropsy.

3. Experiments as to the effect of plugging arteries (embolism) have afforded explanations of diseased processes previously not understood, and in particular of many obscure cases of sudden death.

4. Experimental investigations of the functions of the liver and other secreting glands have materially advanced our knowledge of diabetes and of the affections known as Bright's disease.

5. Knowledge gained from experiments relating to the mode of action of the muscles, and of the nervous system which regulates them, constitutes the basis of the pathology and diagnosis of convulsive and paralytic diseases.

6. Experiments on animal grafting, and as to the nature of the processes by which wounds are healed and injured parts restored. Among the best known are those which relate to the mode of repair of fractured or otherwise injured bones, particularly the researches of Duhamel (1740), Sir Astley Cooper (1820), and Syme (1831). In recent times such inquiries have been pursued much more completely by Ollier and others, and with practical results of ever-increasing value.

7. The dangerous form of blood-poisoning after operations has been investigated by strictly physiological experiments, with the result of almost complete protection from it.

8. Researches into the origin and nature of inflammation, by Redfern, Cohnheim, von Recklinghausen, and others, have been of necessity conducted by means of experiments on animals, and have proved of great practical value.

9. Our recently extended knowledge of the locality of diseases of the brain, and of their accurate diagnosis and treatment, has been due, as in other cases, partly to clinical observations, partly to pathological investigations, but also, and not least, to direct experiments upon the lower animals.\*

### *III. To test various remedial measures directly.*

The utility of the greater number of the older remedies and methods was first learnt empirically, but many of them were not applied to the best purpose until they had been investigated by observations on the lower animals. As regards the remedies and appliances of modern times, they have, in almost every instance,

\* See an article in *Nature*, Nov. 24, 1881, p. 78.

been investigated first and brought into use afterwards. For example :—

1. Subcutaneous injection was used in the laboratory for years before it was applied in practice.

2. The useful property of the well-known anodyne chloral hydrate was first investigated in the laboratory, and then introduced into practice.

3. Pepsin and pancreatin were known for years as physiological agents before they were applied in practice.

4. The action and mode of administration of such important new drugs as nitrite of amyl, physostigma, and the anæsthetic, methylene, were discovered entirely by physiological experiments.

5. The better appreciation and more useful application of some of the most valuable remedies were gained by experiments, such as those by Traube on digitalis, by Magendie on strychnia, and by Moreau and others on saline purgatives.<sup>a</sup>

6. The application of various practically useful methods of checking hæmorrhage was tested upon animals before being tried on human beings, with the result of saving innumerable lives.

7. Similar preliminary trials of subcutaneous and other operations, especially those of tenotomy, have helped in the relief of numerous deformities ; while the trial of such formidable operations as excision of the kidney and tentative improvements in ovariectomy have led to some of the most brilliant results of modern surgery.<sup>b</sup>

8. Experiments undertaken by the Indian Government to test various remedies used for snake-bites have proved the useless or injurious nature of many drugs hitherto trusted in, and many lives have thus been saved by more effectual methods of treatment.

In cases where new drugs are to be introduced, or new operative methods tried, the first experiments must be made either upon living animals or upon living men. Where circumstances excluded the former alternative, members of our profession have not hesitated to make themselves the subject of often hazardous experiments, but happily, in most instances, the sacrifice of a few guinea-pigs or frogs will suffice to help in saving human life.

<sup>a</sup> For further details on the Value of Experiments on Animals in Pharmacology, see the address of Prof. Fraser, Proc. Internat. Med. Congr.; and an article, by Dr. Lauder Brunton, in the Nineteenth Century for December, 1881, p. 926.

<sup>b</sup> See a paper by Mr. Spencer Wells, Trans. Internat. Med. Congr. Vol. II., p. 226.

**IV. *To ascertain the means of checking contagion, and preventing epidemic disease both in man and in brutes.***

An experiment of this kind, inoculating the udder of a cow so as to produce a vaccine pustule, was one of the links in the great discovery of Jenner. Among more recent examples may be mentioned :<sup>a</sup>—

1. The experimental investigations of the last fifteen years, as to the origin and nature of the infective diseases which spring from wounds and injuries (pyæmia and septicæmia), the results of which constitute the basis of antiseptic surgery.

2. The discovery by experiments of the infective nature of tuberculosis (1868), of its relation to chronic inflammation and of its probable connexion with a living parasitic organism (1881).<sup>b</sup>

3. Discovery of the mode of origin, and consequently of the prevention of various parasitic entozoa (as hydatids and trichina), which infect the human body, by inference from investigation of their developement in the bodies of animals.

Among diseases of animals may be mentioned :

1. Silkworm disease, which has been brought completely under control by the experimental discoveries of Pasteur.<sup>c</sup>

2. Smallpox of sheep, against which preventive inoculation has been long used.

3. Cattle plague, the prevention of which is entirely founded on the knowledge of its mode of spreading gained by experiment.

4. Pleuro-pneumonia of cattle, and foot-and-mouth disease, of which, although experiment has not as yet yielded a satisfactory mode of prevention, it has furnished exact knowledge as to the method of its propagation.

5. Splenic fever of cattle, and the analogous diseases of horses, sheep, and other animals, against which experiment has recently (1881) indicated a mode of prevention now being extensively and thoroughly tested in France and other countries in which this disease has most fatally prevailed.

<sup>a</sup> For details on this part of the subject, see the Address by Mr. Simon, C.B., F.R.S., entitled *Experiments on Life as fundamental to the Science of Preventive Medicine*. (Transactions of the International Medical Congress. 1881.)

<sup>b</sup> The Association for the Advancement of Medicine by Research, which issues this Memorandum, is at the present time expending funds in order to contribute to the experimental decision of this most important question.

<sup>c</sup> For details, see a paper in the *Nineteenth Century* for March, 1882, by Mr. Geo. Fleming, President of the Royal College of Veterinary Surgeons: *Vivisection and Diseases of Animals*.



6. Farcy and glanders, the early detection and prevention of which have been greatly promoted by experiments.

*V. For instruction.*

It is not necessary to insist on the well-known difference between book-learning and demonstration. Like chemistry, physiology must be taught practically if it is to be taught well, and it is necessary that all students of medicine to whom the care of the human body will be entrusted should have a practical and thorough familiarity with the most important functions of that body. For this purpose no painful experiments are necessary, and none are performed in our medical schools and colleges. Most of the demonstrations of what is called "practical physiology" are demonstrations of the microscopical structure of the tissues, or of their chemical properties and processes, or of their physical endowments, and the remainder apply to the organs of insensible or recently killed animals. Whether the occasional repetition of an experiment of great importance, and involving very little pain, would be morally justifiable may admit of question; but, as a matter of fact, it is not and cannot be done. Apart from the provisions of the Act, this question was decided long before by the practice of physiologists.\*

*VI. For the detection of poisons.*

The fact that certain of the most subtle and dangerous poisons cannot be certainly identified by ordinary testing (*i.e.*, by recognition of their physical and chemical properties) is well known. In such cases the physiological test, or the effect of the poison upon the lower animals, is the only means by which the guilt of murder can be brought home to a criminal, or the innocence of a wrongfully accused person established. This, like many other scientific facts, has been disputed by ill-informed persons, but it is beyond serious question.<sup>b</sup>

It was found necessary to insert a clause in the Act allowing a judge to order any needful experiments by a medical jurist. But this may cause, and has already caused, injurious delays, and it would be desirable for each person engaged in this department of scientific work to take out the necessary license beforehand.

\* See a Report drawn up by a Committee of the Physiological Section of the British Association for the Advancement of Science in 1871, several years before the appointment of the Royal Commission.

<sup>b</sup> See on this subject a paper by Prof. Gamgee, of Owens College, on the Utility of Physiological Tests in Medico-Legal Inquiries.

We would commend the foregoing enumeration of some of "the more striking and illustrative cases, in which the objects proposed by experiments on animals have been attained," to the calm perusal and thoughtful study of that very irrational, though sometimes well-meaning, class of individuals whom Richard Owen has aptly termed "bestiarians," but who are better known as anti-vivisectionists.

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*Therapeutical Remembrancer*. By J. MAYNE, M.D., &c. Second Edition, Revised. London: J. and A. Churchill. 12mo. Pp. 103. 1882.

WE have not seen the first edition of this small volume; but it must be a remarkable production if this, the second edition, is—as it is claimed to be—an improved form of it. The author is, we believe, an old and respected member of the profession; and we, therefore, regret that he has been induced to re-publish a work which certainly does him no credit. It professes to be "a convenient and reliable digest, a refresher of the memory in respect of all names of individual medicines sanctioned by pharmacopœial authorisation; their uses, and the modes suitable for their exhibition either singly or compounded (*sic*)."

How it fulfils this object a specimen from page 3, under the heading of Alteratives, will show:—

"CHALK (CALCIS CHLORIDUM).

"*Use*.—To prepare the following—

"LIQUOR CALCIS CHLORATÆ.

"*Use*.—(*Intl.*) Bronchocele, scrofula, and some cases of (associated) debility. Dose, m. 30–60, 2ce or 3ce daily."

It will, indeed, be a "refresher" to the "busied practitioner" to learn that chalk and the familiar so-called "chloride of lime" are synonymous. He may also feel surprised that the Pharmacopœia does not authorise any dose for the internal administration of the solution of *chlorinated lime*; and, as far as other authorities teach, that that preparation is not given in the treatment of any of the diseases Dr. Mayne specifies. The solution of *chloride of calcium*, however, of the old Dublin Pharmacopœia, which, we presume, Dr. Mayne means, is, as our readers are aware, still a favourite with many practitioners in the class of cases referred to. Under the head *Creta*, in another place *Creta præparata* is bracketed with white chalk and white marble, and is stated to be a reliable antacid for intestinal disorders, and "toxicological purposes."

The "Medicaments"—of which little more than the mere names and uses, according to the author, are given—are arranged in classes, but not individually indexed. At the foot of each page of the text some "select formulæ" are subjoined, indicating modes in which the preparations named above may be prescribed. The quantities of the ingredients in all of these "model" prescriptions are omitted; why, it is hard to conceive.

An appendix gives "Notes on Poisons," with their antidotes. The value of this portion of the work may be gathered from the fact that no antidotes or modes of treatment are suggested in poisoning by chloral hydrate or by opium; and that in the case of poisoning by belladonna, only the stomach pump is mentioned. We have seldom seen a book which contains such evidence of carelessness, and so many outlandish expressions. It is interleaved with blank pages for Notanda, and these blank pages, we think, are about as useful as the rest of the work.

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*Transactions of the Medical Society of the State of California.*

Sacramento: Beard & Co. 1882. 4to. Pp. 288.

THIS volume of nearly 300 pages contains separate reports upon medicine, surgery, gynæcology, ophthalmology, hygiene, and many other subjects of interest to the medical world. It would be impossible to attempt anything like a careful review of each of these papers—suffice it to say that most of them, if not all, appear to be written by men of experience and research, and will be read with interest by those who are specially engaged in those branches of medical and surgical science of which they treat.

In his annual address the President discusses the question whether the orthodox physician ought to consult with the homœopath or not. This portion of his address is well worth the perusal of those who have taken an interest in the same question in this country. The conclusion which one is forced to form from reading this address is, that in California the opinion of the orthodox members of the profession is pretty much the same as our own—namely, that if those who profess to believe the doctrines of Hahnemann were honest in their professions it would be right to meet them in consultation, but that as those who call themselves homœopaths use the name not as an exposition of their practice, but for the purposes of trade, the orthodox practitioner cannot honestly consult with them.

## PART III.

### HALF-YEARLY REPORTS.

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#### REPORT ON MATERIA MEDICA AND THERAPEUTICS.\*

By WALTER G. SMITH, M.D., Dublin; F.K.Q.C.P.I.; King's Professor of Materia Medica, School of Physic, Trin. Coll. Dub.; Physician to Sir P. Dun's Hospital.

#### ALKALOIDS.

(a.) *Morphia*.—Professor Hamberg, of Stockholm, has been making a series of experiments as to the relative stability of solutions of different salts of morphia, and has recently brought the subject before the Swedish Medical Association (*Pharm. Zeitung*, XXVI., No. 46). He finds that the sulphate of morphia is more stable than the hydrochlorate, and that the best results are obtained when the solutions are made with boiling distilled water (tested for freedom from ammonia, nitrous, nitric, or phosphoric acids), and filtered directly into small well-filled glass-stoppered bottles, which should afterwards be doubly capped with parchment.

(b.) *Solanine*.—Symptoms of poisoning, such as diarrhoea, vomiting, &c., are, according to Von Renteln (Dissertation, Dorpat), probably more frequently produced by the consumption of considerable quantities of potatoes than is generally thought to be the case. Such symptoms are not uncommon amongst the poorer classes, especially at that season of the year when too old or too young potatoes form their principal article of diet. Such potatoes contain considerable quantities of solanine residing to a great extent in the skin and passing into solution on boiling with water. In the examination of the body of a man who, for two or

\* The author of this Report, desirous that no contribution to the subjects of Materia Medica and Therapeutics should remain unnoticed, will be glad to receive any publications which treat of them. If sent to the correspondents of the Journal they will be forwarded.

three days previous to his death had eaten nothing but unripe raw potatoes, solanine was detected in the stomach, whilst the blood contained principally solanidine with traces of solanine. By experiments on animals the author has proved that the detection of solanine in cases of poisoning can be safely effected, and that the examination of the blood, urine, and contents of the stomach is more important than that of the organs. The greater part of the solanine is excreted in the urine; of the organs, the liver appears to retain it undecomposed for the greatest length of time. The blood contains solanidine with a little undecomposed solanine, and this fact raises doubts in the author's mind of the opinion entertained by Husemann that it is to solanine and not to solanidine that the physiological action on the system is due. Solanidine is much more slowly absorbed than solanine, and therefore a much larger dose is required to produce a fatal effect. Both solanine and solanidine may be isolated by Dragendorff's method of agitation with various liquids, the former being removed by petroleum spirit from alkaline, the latter by benzin and chloroform from acid solution. The best reagents are "seleno-sulphuric" and "alcohol-sulphuric" acids. The former is made by dissolving 0·3 gram of selenate of soda in a mixture of 6 c.c. of pure concentrated sulphuric acid and 8 c.c. of water; the latter by adding 9 parts of alcohol to 6 parts of concentrated sulphuric acid. On adding a few drops of either reagent to solanine or solanidine and allowing to stand, a splendid red colour is slowly developed.—(*Pharm. Journ.*, April 1, 1882.)

(c.) *Aconitine*.—In April, 1880, a case of death by poisoning occurred at Winschoten, in Holland, which was supposed to have been due to an error in dispensing a mixture containing nitrate of aconitine. In connexion with the judicial investigation, the authorities submitted to Professors Plugge and Huisinga, of Groningen, (1) a mixture, (2) three samples of nitrate of aconitine, and (3) the residue from the evaporation of benzol that had been shaken with the vomit and the contents of the stomach and intestines of the deceased, with a request that they would report upon their relative poisonous properties.

The three samples of nitrate of aconitine were labelled respectively: (b) *Aconitin nitric.*, from Mastenbroek and Gallenkamp (the firm by whom the mixture was dispensed); (c) *Aconitin nitric.*, from E. Merck, of Darmstadt, and (d) *Aconitin nitric.*, from Friedländer, of Berlin.

The first examined was the nitrate of aconitin labelled (*b*), since it was the kind used in dispensing the mixture, the prescription for which was as follows:—

R. Aconitini Nitrici, - - - 0·2  
Tinct. Chenopodii Ambrosiod, - - 100

D. S. hourly, 20–40–60 drops.

It appears that the physician intended Friedländer's nitrate of aconitine, but as he did not say so, the dispenser used a preparation he had in stock, and which had been obtained originally from Petit, of Paris. It consisted of hard white crystals, which were difficultly soluble in cold water. A 0·2 per cent. solution was prepared for subcutaneous injection in experiments upon frogs, rabbits, dogs and pigeons.

The sample of Merck's nitrate of aconitine (*c*) was a yellow-brown powder, which dissolved easily in water. As a weaker action was anticipated from this preparation, a 1 per cent. solution was used.

The sample of Friedländer's nitrate of aconitine was a hard greyish-white agglutinated gummy mass, very soluble in water. Of this a 1 per cent. solution was used.

The physiological phenomena following the injection of these different solutions are minutely described in the original paper. The difference between the action of Petit's preparation and that of Merck's appeared to be quantitative only, no qualitative difference being observed. Both were powerful heart poisons, death resulting from stoppage of the heart's action. Friedländer's preparation apparently differed in not affecting the heart so much, in proportion to the development of the other aconite symptoms, such as a chewing motion of the mouth, flow of saliva, difficulty of breathing, dyspnœa, &c.

The relative activity of the preparations is shown in the following tables:—

(*b*) *Nitras Aconitini, from Petit, Paris.*

	Dose.		Effect.
Frogs	0·4 mg. = per kilo.	16 mg.	Death in 60 minutes.
Rabbits	0·8 mg. „	0·5 to 0·6 mg.	Death in 30 minutes.
Dogs	1·6 mg. „	0·21 mg.	Death in 20 minutes.
„	0·45 mg. „	0·10 mg.	Death in 140 minutes.
„	0·50 mg. „	0·054 mg.	Recovered.
„	0·66 mg. „	0·075 mg.	Recovered.
Pigeons	0·07 mg. „	0·22 mg.	Death in 21 minutes.

*(c) Nitras Aconitini from Merck, Darmstadt.*

	Dose.		Result.
Frogs	0·4 mg. = per kilo.	16 mg.	Recovered
"	1·0 mg. "	40 mg.	Death in 120 to 360 hours.
"	2·0 mg. "	80 mg.	Death in 75 to 130 hours.
"	4·0 mg. "	160 mg.	Death in 52 hours.
Rabbits	3·5 mg. "	2 mg.	Death in 75 hours.
"	10·0 mg. "	6·52 mg.	Death in 15 hours.
Dogs	10·0 mg. "	1·65 mg.	Death in 15 hours.
Pigeons	0·4 mg. "	1·65 mg.	Recovered.

*(d) Nitras Aconitini, from Friedländer, Berlin  
(= Trommsdorf, Erfurt).*

Frogs	4 mg. = per kilo.	160 mg.	Recovery.
"	10 mg. "	400 mg.	Death after 60 hours.
"	20 mg. "	800 mg.	Death after 60 hours.
"	40 mg. "	1600 mg.	Death after 60 hours.
Rabbits	6 mg. "	4·11 mg.	Recovered.
"	24 mg. "	10 mg.	Recovered.
"	50 mg. "	85·5 mg.	Recovered.
"	28 mg. "	6 mg.	Recovered.
Pigeons	10 mg. "	33·4 mg.	Recovered.

The quantity of this preparation at the disposal of the experimenters did not allow of an estimate being made of a lethal dose for a warm-blooded animal, but when administered to rabbits in the proportion of 85·5 mg. per kilo. of the animal's weight it produced tolerably strong symptoms of poisoning.

From the above figures the following conclusions are drawn:—

(1.) Petit's nitrate of aconitine has a poisonous action at least eight times stronger than that of Merck's, and one hundred and seventy times stronger than that of Friedländer's.

(2.) Merck's nitrate of aconitine has a poisonous action at least twenty to thirty times stronger than that of Friedländer's.

It also appears from the foregoing that the preparations known as "German aconitine" are not always of the same strength, there being a much greater difference between the two German preparations examined than between the more powerful of the two and the French preparation.

In conclusion, the author emphasises the necessity—seeing the



great possibility of variation in preparations sent into the market—that physicians should exercise the greatest care in prescribing aconitine and its salts, as the dispensing of a different preparation from that intended by the prescriber may lead to the administration of a fatal dose, as in the case under investigation, where instead of Friedländer's preparation, which was intended but not specified by the prescriber, that of Petit, which was one hundred and seventy times stronger, was used. The author also recommends that the official maximal dose in the Dutch Pharmacopœia, of 4 milligrams or 32 milligrams daily, should be struck out, as in this case it proved fatal.

Comparative experiments with the mixture confirmed the statement that Petit's preparation had been used in dispensing the mixture. Only negative results were obtained with the residue from the vomit, &c.—(*Ph. Journ.*, 18th Feb., 1882, from *Archiv der Pharmacie*.)

The question, "What is aconitine?" has yet to be determined from a chemical and physiological point of view, and the utmost that can safely be done by the medical practitioner, in ordering aconitine, is to specify the particular make that he refers to. The plan, however, is scarcely an improvement upon the use of galenical preparations.

Very much of the discrepancy obtaining between the various products known under the name of "aconitine" is probably to be ascribed to the difference of the materials from which they are obtained. According to Messrs. Cleaver and Williams, *Aconitum paniculatum* contains an alkaloid which is evidently not like that of *Aconitum Napellus* in physiological action. The alkaloid contained in the Japanese aconite root now so abundantly imported is, again, of a different character from either of the two mentioned, and, according to the statement of Langgaard, it is much more poisonous than the alkaloid from other kinds of aconite root. The root of *Aconitum ferox*, again, yields another alkaloid known as pseudaconitine.

Under these circumstances of unquestionable difference in the medicinal efficacy of the substances that may be met with under the common name of aconitine, it seems desirable that the greatest caution should be observed in their use, and it may well be held that it is preferable to have recourse to a product obtained in accordance with such specific instructions as to raw material and extraction as are given in the British Pharmacopœia, for the pre-

paration of what is there termed aconitia. Though the preparation may be in some degree open to the reproach that it is little else than a galenical preparation of more than ordinary potency, it has, at least, the recommendation that Professor Redwood claims—viz., that of being produced by means calculated to ensure as much uniformity as is possible. So long, therefore, as our knowledge of the aconite alkaloids remains as it is, and so long as there is a process in the Pharmacopœia for the preparation of aconitia, nothing else but that preparation should be used in medicine or by pharmacists. Unquestionably it is the duty of the dispenser to use that preparation, and that only, except in cases when some other preparation is definitely ordered.—(*Pharm. Journ.*, 11th March, 1882.)

(d.) *Eserine, and the Mydriatics* (atropine, duboisine, homatropine, and hyoscyamine).—After a series of careful experiments, Herman Schäfer (*A. f. Oph.*, Vol. X., No. 2) states, in regard to the influence of eserine upon the three agents, atropine, duboisine, homatropine, that it counteracts the effects of homatropine completely and permanently; that of duboisine, and more particularly that of atropine, however, only when instilled in larger quantities, and then only for a brief period, after which it yields again to the effects of the latter.

The *absorption* into the aqueous humour of these three substances, as well as their *transmissibility*, has been demonstrated by experiments. Aqueous humour containing atropine and duboisine acts more rapidly when transferred. Aqueous humour containing atropine and duboisine secures maximal dilatation, but that charged with homatropine does not effect this result completely.

In general, it is sufficiently demonstrated that, as respects the *dilatation of the pupil*, atropine, if somewhat slower, possesses a more lasting influence than duboisine; that the latter dilates the pupil in a shorter time, and momentarily acts more energetically, but loses its influence more quickly; finally, that homatropine develops its influence in a briefer time than either of the other agents, but produces a lesser dilatation of the pupillary diameter, and is the first to decline in its effects. The degree of concentration in which the homatropine is employed is apparently without influence upon the duration of the effect.

The *accommodation* is paralysed more rapidly by duboisine and homatropine—by duboisine even a little more so than by homatropine; with the latter, however, the normal state returns in

twenty-four hours, with duboisine after three to four days. Paralysis of the accommodation by atropine proceeds very gradually, and persists the longest.

In accordance therewith would be the *practical application* of these three agents. Where it is desired to secure simply dilatation of the pupil for the purpose of examining the fundus, or to paralyse the accommodation for the certain determination of the state of the refraction, homatropine is decidedly to be preferred to the other drugs.

Dr. S. D. Risley, in a recent paper (*Trans. Am. Ophth. Soc.*), also concludes "that for the correction of anomalies of refraction in otherwise normal eyes, the homatropine is to be preferred."

If, on the other hand, a therapeutical effect is desired, homatropine is to be set aside, on account of its insufficient and too restricted effect, and the application of atropine and duboisine can alone enter into consideration. Risley (*loc. cit.*), from a therapeutic standpoint, concludes "that, if retino-chorioidal disturbance is also present, hyoscyamine or duboisine is preferable; (a) to atropine, because of the shorter duration of the treatment; (b) to homatropine, because of their more persistent control over the ciliary muscle; and that hyoscyamine is preferable to duboisine, since the tendency to systemic poisoning is not so great."

Schäfer recommends the use of duboisine in iritic conditions, with or without extensive synechiæ, where atropine had been employed for some length of time, and with but partial success, on account of conjunctival and ciliary injection. Duboisine, he says, never causes conjunctival irritation, and even diminishes that caused by atropine.—(*Med. and Surg. Rep.*, March 25, 1882.)

#### IODIDE OF POTASSIUM AND CALOMEL.

It is some considerable time since authors, M. de Wecker among others, indicated the danger of employing iodide of potassium internally, concurrently with calomel insufflations upon the conjunctiva, violent conjunctivitis being sometimes set up. Dr. Schläfke has undertaken some experiments upon this subject as follows:—He administered to rabbits a quantity of iodide of potassium approximately equal to  $\frac{1}{7000}$  of their weight, and at the end of seven minutes was able to detect the presence of this salt in the conjunctival liquid by means of chloride of palladium. In man, if a small quantity of calomel be placed in the conjunctival *cul-de-sac* of an individual who is taking one or two grammes of potassium

iodide daily, an acute localised conjunctivitis will be caused, and an eschar may be formed in the *cul-de-sac*.

In animals, it is very easy to produce the same phenomenon by acting upon a rabbit to which 25 centigrammes of iodide of potassium have been given. There can be little doubt that the cause of the symptoms of local irritation is the conversion of the calomel into mercuric iodide under the agency of the potassium iodide circulating in the tears.—(*Journ. de Méd. et de Chir.*)

#### IODIDE OF POTASSIUM ERUPTIONS.

In a study of two cases of eruptions produced by iodide of potassium, M. Ernest Besnier remarks that the anatomical form of medicinal eruptions is due more to the nature of the individual himself than to that of the drug. Thus, in many persons, iodide of potassium causes, after prolonged use, a papular or papulopustular eruption (acne), varying in intensity and confluence, but sensibly identical in all. The same drug, however, in the same or even smaller doses, may produce varieties of erythema, curious forms of acne (especially an anthracoid giant acne resembling a severe bromide rash), bullous eruptions, purpura, and, what is very remarkable, in such cases, it is the selfsame eruption which can always be produced, and reproduced at will, by the drug.

Among these different eruptions, none of them is absolutely peculiar to iodide of potassium, and each may be evoked by very diverse drugs—*e.g.*, bromides, mercurials, salts of quinine, morphia, atropia, &c., in persons who exhibit towards these particular drugs a special intolerance.

As to pathogeny we may admit that, under ordinary conditions (*e.g.*, common iodo-potassic acne), the eruption is due to elimination of the drug through the skin, causing direct irritation of the affected parts; but, in the graver cases, it is probable that the nervous system intervenes, and that we have to do with a reflex action starting from the digestive tract.

In corroboration of this latter view is the fact that, in these susceptible subjects, the introduction of the same drug hypodermically does not produce the same accidents.—(*Journ. de Méd. et de Chir.*, Juin, 1882; from *Annales de Dermatologie*.)

#### TREATMENT OF COUGH.

Professor Rossbach extols the virtues of apomorphia as an expectorant. According to him this drug will convert a dry, hacking

cough into a moist, less frequent one, with easy expectoration. The best prescription is—

R. Apomorph. hydrochlor., 0·003–0·05 grm.  
       Acid. hydrochl. dil., - 0·50 „  
       Aq. destill., - - 150 „

M. Keep in a black bottle. Dose, a teaspoonful, repeated every two hours if necessary.

Or, in combination with morphia—

R. Morphiæ hydrochlor., - 0·03 grm.  
       Apomorph. hydrochl., - 0·03–0·06 „  
       Acid. hydrochl. dil., - 0·50 „  
       Aq. destill., - - 150 „

M. Keep in a black bottle.

Professor Rossbach also reminds us that morphia and atropia should not be given in the same mixture, on account of the powerful and enduring action of atropia.—(*Berl. klin. Wochensch.*, Juli 3, 1882.)

#### CITRATE OF CAFFEIN AS A DIURETIC.

In January, 1879, Dr. Lewis Shapter, following Gubler, directed special attention to citrate of caffein as a diuretic in cases of cardiac dropsy, and his favourable results were confirmed by Dr. Leech. Dr. D. Brakenridge has prescribed this drug in a large number of cases of cardiac and renal dropsy, both in the wards of the Edinburgh Royal Infirmary and in private practice, and is convinced of its value when employed in suitable cases. In support of his view that citrate of caffein possesses a special power of stimulating the secreting cells in the kidney, and that its action as a vascular diuretic, if present at all, is very feeble, he adduces the following considerations:—

“1. It fails to produce any increase in the amount of the urine in cases in which the renal epithelial cells are diseased—as, *e.g.*, in the early stages of desquamative nephritis—even when vascular and saline diuretics produce a considerable increase. 2. It fails to do so in cases of cardiac dropsy in which, from physiological considerations, we may conclude that the glandular epithelial cells are already doing a maximum amount of work, or are exhausted by transference of work to them from the filtering apparatus. 3. When it acts as a diuretic it increases not only the amount of water passed, but also very markedly the amount of urea, if it has

previously been abnormally lowered. 4. Its action is strikingly complementary of that of digitalis, so that, in cases in which both given alone have failed, the two administered together, according to the view suggested, have produced very striking diuretic results. 5. This increase in the amount of the urine may be independent of any increase in the general arterial blood-pressure sufficient to account for it on any theory of general or local blood-pressure. 6. The combination of digitalis with citrate of caffein causes a striking rise in the amount and percentage of urea, which cannot be explained on any filtration hypothesis. How citrate of caffein stimulates the renal glandular epithelial cells is still a matter of conjecture. Probably its action is similar to that of jaborandi or pilocarpin on the salivary and sweat glands. From the foregoing considerations and my whole experience of this drug, the following practical conclusions regarding the employment of citrate of caffein as a diuretic may be deduced:—1. In cases in which the renal glandular epithelium is diseased, is already doing a maximum amount of work, or is exhausted, this drug is unsuitable, and should not be administered. 2. During recovery from acute desquamative nephritis, when renewal of the renal epithelium has reached a certain point, citrate of caffein cautiously administered has appeared to me to have had a decidedly beneficial effect; possibly in such cases it may exert a trophic as well as a secretory stimulant influence. 3. In such cases, as the arterial blood-pressure is tolerably normal, citrate of caffein should be given alone, not in combination with a vascular diuretic. 4. In cases of cardiac disease, with absence of compensation, and resulting diminution in the blood-pressure and flow of blood through the kidney, general dropsy, and transference of work in the kidney from the filtering to the secreting structures, a vascular diuretic, such as digitalis, must be employed in the first place to restore those conditions in the kidney which are essential to the action of citrate of caffein. For this purpose digitalis should be administered for a short period, one to three or four days, before commencing the citrate of caffein. 5. Citrate of caffein, employed in this manner in conjunction with digitalis, which, for obvious reasons, must not be discontinued when the caffein is commenced, is a diuretic of extraordinary power, acts with great rapidity, and is especially valuable in this respect, that it causes a great increase in the elimination of urea (and probably of other solids) as well as of water. 6. It must, however, be remembered that special and powerful stimula-

tion of any gland, especially if it be in a state of malnutrition, may, and usually does, lead sooner or later to exhaustion, and must, therefore, be regarded as at best a temporary expedient, and of limited duration. 7. For this reason very large doses of citrate of caffein should be avoided. I have found gr. 3, administered once, twice, or three times daily, according to the circumstances of the case, amply sufficient for all purposes. 8. Whenever the beneficial effects of the drug have been attained, we should at once endeavour to render them permanent by suitable diet, well-selected chalybeate and other tonic remedies, or other remedial measures indicated by the special circumstances of the case. 9. In cases of very great ascites, in which the blood-pressure in, and the flow of urine through, the kidneys is interfered with by pressure on the kidneys and the renal arteries and veins, and in which the pressure of the urine within the capsules is increased by pressure on the ureters, neither vascular nor secretory diuretics, alone or combined, can act efficiently until the pressure of the ascitic fluid has been got rid of. 10. The citrate of caffein may be administered either in pill or in solution.”—(Reprint of paper read before the Medico-Chirurgical Society of Edinburgh, June 1, 1881.)

**THE EFFICIENT DOSAGE OF CERTAIN REMEDIES USED IN THE  
TREATMENT OF NERVOUS DISEASES.**

Under the above title Dr. E. C. Seguin recently read before the Medical Society of the State of New York a paper which contains statements that deserve the attention of clinical physicians. The subjoined extracts from the paper will sufficiently present Dr. Seguin's views to our readers. He writes:—

“I propose to briefly review the posology of a few drugs—giving the doses as stated by the best authorities, by writers on therapeutics, and by clinicians, and then stating the doses which I believe to be useful and safe.

“I wish it particularly understood that in advocating larger doses of these remedies I do so only on the basis of a tolerably large experience, and not at all from any theoretical scientific considerations. At the same time that I advocate efficient doses, I am carefully observant of all the circumstances which render patients susceptible, and always make an allowance for idiosyncrasy. Thus, in first prescribing a potent remedy, I take into consideration the age, sex, and size of the patient; and also make an



estimate of his general condition, and note particularly the state of his circulatory organs. Then, for a patient whom I see for the first time, I order very small doses, doses such as the books justify, and by steady increase feel my way, fearlessly because watchfully, to the larger doses, often seemingly dangerous doses, which really affect the organism and may cure the disease."

*Conium*.—"To Dr. John Harley (*The Old Vegetable Neurotics*, London, 1867) we owe the present rational or physiological use of conium. He swept away the former traditions of the potency of the drug, and showed that most of its preparations were inert. He obtained definite physiological and therapeutical results from the succus conii, administered in doses of from 3 ii. (gm. 8) to 3 i. (gm. 32). By means of these quantities he obtained the paresis of third nerves, arms and legs, which is the characteristic result of conium action of the spinal cord.

"The prototype of our excellent officinal preparation, the fluid extract made by Dr. Squibb, was unknown to Dr. Harley until just as his book was going to the press. (Page 94, note).

"I have used conium a good deal in the last ten years, and have always employed the fluid extract as made by Squibb: I have tried it in chorea, in spasms of paralysed limbs, in general irritability, and in insomnia.

"When the indication is present, as in chorea, to obtain muscular relaxation, after a few tentative doses of 20 and 40 minims (gm. 1.2-2.4). I give at one dose 60, 80, or even 100 minims (gm. 3.6-4.8-6). These doses cause drooping of the upper lids (sometimes diplopia and paresis of the arms and legs). I do not repeat the dose until after the effects have passed off—in from 12 to 24 hours.

"In a case of chronic adult chorea of 14 years' standing, which I almost perfectly cured in 1872-3, at the Epileptic and Paralytic Hospital on Blackwell's Island, a large part of the result (a very remarkable result in my experience) was attributable to paresis daily produced by a teaspoonful of Squibb's extract of conium for a month or more.

"Many cases of insomnia, with wakefulness in the first part of the night, more especially those with fidgets or physical restlessness, are very much benefited by conium. I usually give 20 minims (gm. 1.2), with 20 grains (gm. 1.3) of bromide of sodium in camphor water, at bed-time, to be repeated if necessary. In some cases (male adults) I give 50 to 60 minims (gm. 3-3.6) at

one dose, not to be repeated. Such a sleeping-draught prescription has been repeatedly returned to me by druggists, because they thought the dose enormous. Indeed I usually warn patients that the druggist may comment on the dose.

“If we have a clear indication to give conium, we ought to give enough to fulfil the indication, and this cannot be done without obtaining the physiological effects. With due precaution, there is a wide and sure distance between physiological and toxic effects, yet, with reference to remedies such as I shall refer to, how few physicians understand and appreciate that the curative effects are obtained in just that interval between physiological and toxic effects. To be successful we must be bold, as bold as physiological knowledge can make us, and yet as cautious in the first giving of powerful drugs to a patient as if we had no courage at all.”

*Fowler's Solution* (*Liquor potassii arsenitis*.—*U. S. P.*).—“In this preparation, ℥j. contains  $\frac{1}{10}$  grain or gm. .0005 of arsenious acid.

“My own experience is in substantial accord with that of Radcliffe and of Begbie, in that I have almost never known arsenic to fail to cure chorea and often very quickly. I have almost always given Fowler's solution by the stomach in doses ranging from 3 to 30 drops three times a day.

“It is exhibited largely diluted with water, usually half a tumblerful or from 3 to 4 ounces (gm. 90 to 120), and given after food, although I am now inclined to think that the importance of this latter caution has been over-estimated, and is not as great as is that of proper dilution.

“In children who are delicate and in sensitive adults I sometimes commence with a dose of 2 drops after each meal; more usually, however, with a dose of 5 drops. Each day I add 1 drop; thus:—On the first day the patient takes 5 drops three times a day, on the second day 6 drops three times a day, the third day 7 drops three times, and so on.

“Usually, when a dose of from 10 to 14 drops three times a day is attained, some arsenical symptoms appear; these are—diarrhoea, nausea, vomiting, anorexia, redness and puffiness about the eyes; one of these symptoms or any combination of them. They are not serious, and during their prevalence I have never found albumen in the urine. My practice formerly was to go back to smaller doses when this condition developed and to again increase; but in the last two years I find it more advantageous to withhold all

arsenic for forty-eight hours and then resume at the last dose and begin a further increase. A remarkable tolerance is now shown by most patients, even by young children; and doses of 20, 25, and even 30 drops thrice a day may be reached without a renewal of these symptoms.

"I recently had a chronic and relapsing case of hemichorea in a girl fourteen years old which resisted doses of 34 drops three times a day, an equivalent of one grain (gm. 0·06) of arsenious acid per diem. My directions as to physical and mental rest were disregarded by parent and patient, and this may account for the failure of the arsenic. Under the use of 2 grains (gm. 0·13) and 3 grains (gm. 0·19) doses of bromide of zinc, the movements ceased within a month after the discontinuance of the arsenic.

"I have been taught by experience not to expect amelioration of the choreic movements until the toxic effects of arsenic are evident; and in old, or relapsing cases, not until the second period of toxic symptoms. I nearly always combine rest, nearly absolute rest in bed, in severe cases, with the arsenical treatment, and, if the patient be wakeful or nervous at night, an occasional bed-time dose of chloral hydrate *per os* or by enema is given.

"Simple, acute chorea may often be cured in two weeks' time by this plan, in positive contradiction to the too-prevalent notions of self-limitation of chorea and scepticism as to the efficacy of drugs in this disease.

"As regards possible ill-effects from this arsenical treatment, I would repeat that, though I have examined the urine of many patients at the periods of saturation by arsenic, I have never found albumen or tube-casts. Stomatitis I have seen but once, in the case of a physician's son, whose chorea was very rapidly and permanently cured by moderate doses (about 18 drops three times a day). Cutaneous symptoms I have never met with; and the gastro-intestinal irritation has never been serious or permanent."

*Crystallised Aconitia of Duquesnel (Aconitia.—U. S. P.)*

"Gubler.—*Leçons de Thérapeutique* (1877), pp. 147–8. Prof. Gubler may be considered as the introducer of Duquesnel's aconitia. In articles, besides in this book, he was the first to indicate its wonderful efficacy in neuralgia, particularly trigeminal neuralgia.

"He recommends gm. 0·0005 ( $\frac{1}{180}$  grain), or less at first; gradually increased to gm. 0·002–0·004–0·005 ( $\frac{1}{30}$ ,  $\frac{1}{18}$ ,  $\frac{1}{9}$  grain).

"Influenced by Prof. Gubler's article and by his book, I began

using the aconitia of Duquesnel in the winter of 1877-8, with most gratifying results. More of the drug was imported, and in a few months several of my friends were trying the remedy—among them I may name Dr. M'Bride and Dr. Andrew H. Smith.

“Since that time aconitia has been used by many physicians in numerous cases of trigeminal neuralgia, with very favourable results. A large proportion of cases have been cured, and some very ancient cases (8 to 12 years) relieved very much by the medicine. A few cases only have been uninfluenced.

“In my first use of aconitia I employed a solution made by the late Dr. William Neergaard, the only pharmacist who then (1877-8) held a sample of Duquesnel's preparation.

“R. Aconitiæ (Duquesnel's), gr. $\frac{1}{10}$	006 gm.
Glycerini	
Alcoholis,      āā      3 i.      4	
Aquæ menth. pip., ad      3 ij.      60	

“Each teaspoonful (estimating seven teaspoonfuls to the ounce) contained about  $\frac{1}{10}$  grain (gm. 0·00046). This dose was to be given two, three, or more times a day, on an empty stomach, till the pain ceased or the physiological symptom—numbness—was produced. As my subject to-day is not clinical therapeutics as much as posology, I pass by many interesting facts about the use of aconitia and omit all cases.

“The remark which I have already made about the necessity of giving small doses of potent drugs to a patient whom we see for the first time, and of estimating his susceptibility, applies with especial force to aconitia. Bearing this in mind and carrying it into practice, we may be very bold, almost rash, later on, without running real danger.

“Those of us who introduced aconitia in 1878 soon discovered that some persons, females especially, were powerfully affected by minute doses. Dr. A. H. Smith reported a case to our Committee in which a lady was distressed by  $\frac{1}{10}$  grain, and I myself, while in a reduced state of health and suffering severe trigeminal pain, was much benumbed by  $\frac{1}{10}$  grain (though long afterward, when quite well, it required two doses of  $\frac{1}{10}$  grain to produce nearly similar effects).

“It is well, consequently, to give debilitated, susceptible, and female patients, doses of  $\frac{1}{10}$  or  $\frac{1}{20}$  grain (gm. 0·00026 to gm. 0·00032) to begin with. These facts have induced the Messrs. Schieffelin & Co. to cease making pills of  $\frac{1}{10}$  grain, and to furnish

only the  $\frac{1}{800}$  grain which can be repeated at will. Messrs. Caswell & Hazard still furnish both doses in the shape of soluble tablets.

In a case of neuralgia, after a day's testing with minute doses, if I find no undue susceptibility to the drug I give it freely— $\frac{1}{800}$  grain (gm. 0.00065) every three or four hours until distinct numbness and coldness (subjective coldness) be felt in the limbs and face. Then a longer interval may be allowed before giving another dose. Some subjects will take 3 or 4 tablets of  $\frac{1}{800}$  grain, each day, and be in a constant state of numbness without harm, and often with curative effect.

“In some of my cases of chronic epileptiform neuralgia I have kept patients under the influence of the drug for days and weeks, and have seen no evidence of cumulative effect.

“As a rule, in testing a man of average physical development and not reduced by disease I at once start with doses of  $\frac{1}{800}$  grain (gm. 0.00065).

“As regards maximal doses, I may state that in certain cases of posterior spinal sclerosis with severe fulgurating pains I have given from 4 to 8 doses of  $\frac{1}{800}$  grain each in 24 hours, producing in some cases faintness, sickness, and a considerable prostration. I might add that this form of nerve-pain has never been relieved by aconitia, and that with hardly an exception all the tabetic patients I have experimented on have not shown any trace of the numbness which is *the* sign of aconitia effect in healthy persons.

“As a rule, the pain of trigeminal neuralgia ceases when the physiological effects of the drug are manifest. I do not pretend, and Prof. Gubler did not claim that aconitia is a certain or specific remedy against trigeminal neuralgia, but it certainly is the best of all our present therapeutic resources against this terrible disease. Of course in certain cases special ætiological factors must be considered, and other treatment given besides the aconitia—for example, in clearly malarial neuralgia, and in syphilitic neuralgia, or in the (rare) neuralgia from bad teeth.”

*Phosphorus and Phosphide of Zinc (Phosphorus.—U. S. P.).—*  
 “*J. Ashburton Thompson.*—Free Phosphorus in Medicine, London (1874), p. 190: The chief precaution to be observed in the treatment of neuralgia with free phosphorus . . . is to administer a full dose of the remedy in the first place . . . unless half a grain or more be given in the course of each twenty-fours, frequent failures, or only partial successes in treatment will

be met with. But the remedy must be given in not less than this dose—i.e., one-twelfth of a grain repeated every four hours, from the beginning of treatment.

“Page 191. He admits the utility of the alcoholic and ethereal solution, reduced phosphorus, and even zinc phosphide, but he has had the best results from one-twelfth of a grain of phosphorus dissolved in cod-liver oil every four hours.

“Thompson has more recently furnished the following formula for the preparation of a solution of phosphorus, which is not unpalatable to most patients:—

“Take of

Phosphorus,	gr. i.		06 grm.
Absolute alcohol,	3v.	20	
Dissolve with heat.			
Glycerine,	3xii.	48	
Alcohol,	3ii.	8	
Essence of peppermint,	3ii.	2	5

Mix the two solutions, which make nearly 3xx.; 3i. =  $\frac{1}{80}$  grain (gm. 0.003).

“Very soon after the appearance of Dr. Thompson’s article, I caused this solution of phosphorus to be made by Mr. F. Haas, by Caswell, Hazard, & Co., and by the late Dr. Neergaard, and used it a great deal. A weaker preparation or imitation, under the name of elixir of phosphorus, one teaspoonful of which contains  $\frac{1}{80}$  grain, is also sold, but I prefer the stronger form, and write for *solutio phosphori* (Thompson).

“I have employed this solution with the greatest success in trigeminal neuralgia, and with some success in other neuralgias—following Thompson’s plan of giving full doses, usually 1 teaspoonful (about  $\frac{1}{8}$  grain, if we estimate a teaspoonful to be a little over 3i.), every three or four hours. I have known a severe facial neuralgia (not chronic epileptiform neuralgia) cured in two days, and even in 24 hours; several cases in a week.

“In conditions of nervous prostration, cerebral anæmia, incipient cortical degeneration (dementia), in melancholia, I have been much pleased with a combination of Thompson’s solution and cod-liver oil in the proportions of 1:6 or 1:4, a tablespoonful of the mixture being given after each meal.

“In other cases I have had an extemporaneous mixture made and given two or three times a day: Thompson’s solution, 1 teaspoonful; sherry, 2 tablespoonfuls; cod-liver oil, from 1 to 2 table-

spoonfuls; and the yolk of one egg, thoroughly beaten and mixed, with the addition of a little extra oil of peppermint. This is well received by most patients, and constitutes a most valuable tonic.

"The phosphide of zinc, in doses of  $\frac{1}{8}$  to  $\frac{1}{4}$  grain (gm. 0·011 to 0·016), combined with nux vomica or with belladonna, according to indications, has seemed of some efficacy in the treatment of posterior spinal sclerosis, of cerebral anæmia, of nervous prostration ('neurasthenia'), and of incipient dementia.

"With pills of pure phosphorus I have had little experience. The pills offered by most of our manufacturing drug concerns are of too small a dosage. As may be seen from the citations made, and from my own experience with other preparations, the giving of  $\frac{1}{100}$  grain (gm. 0·0006), or even of  $\frac{1}{30}$  grain (gm. 0·0012) of phosphorus is of probably very little use. From  $\frac{1}{30}$  to  $\frac{1}{10}$  grain (gm. 0·002–0·006) should be administered three times a day, with, of course, due watchfulness for signs of gastric irritation."

*Crystallised Nitrate of Silver* (*Argenti nitras*.—*U. S. P.*).—"W. Erb, Ziemssen's Cyclopædia, American edition, Vol. XIII., on Diseases of the Spinal Cord, pp. 614–5, recommends from  $\frac{1}{8}$  to  $\frac{1}{4}$  grain three times a day, or from 1 to  $1\frac{1}{2}$  grains per diem, until 120 or 150 grains have been consumed. He has a high opinion of the medicine, for he says, p. 614:—"Among the *internal remedies* for tabes, nitrate of silver undoubtedly stands first, as it can show quite undoubted results.'

"I have employed nitrate of silver extensively in the treatment of locomotor ataxia, and am almost disposed to agree with Erb. I can most positively assert that in quite a number of my cases the course of the disease has been materially checked, and in many others repeated periods of relief have been secured by nitrate of silver.

"I have also given it in various forms of subacute and chronic myelitis, but with less definite results, though my impression of its action in these cases is favourable.

"I never prescribe less than  $\frac{1}{4}$  grain (gm. 0·0126) of nitrate of silver at a dose, and usually give  $\frac{1}{2}$  grain (gm. 0·03). The remedy is made up in a pill with an indifferent extract (taraxacum), or with extract of nux vomica, or with extract of belladonna, according to the indications of the case, whether for spinal stimulation or for sedation.

"I always give the pill before meals, three times a day, and occasionally administer a fourth pill at bed-time. A course of



silver, with me, usually lasts two months, which at the rate of  $1\frac{1}{2}$  grains (gm. 0.10) a day, would give 90 grains (gm. 6)—a perfectly safe quantity as regards danger of discoloration of the skin. After an interval of two or three months I often give another, shorter course, and so on.

“None of my patients has as yet shown discoloration (argyria), and I have seldom been annoyed by the occurrence of gastric and intestinal irritation. Albuminuria I have never seen.”

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#### THE SOAP TREATMENT OF SUBCUTANEOUS SUPPURATION AND OF GLANDULAR INFLAMMATIONS.

THE *London Medical Record* for August contains a translation of an article by Dr. Beetz in the *Aerztliches Intel. Blatt*, on the above subject. From extended observations, which are given in detail in the article, it would appear that most satisfactory results have been obtained in this large field of cases by the local application of soft soap. In addition to scrofulous tumours as well as inflammations in children, it has been used in the lymphadenitis of adults; and, finally, in every case of subcutaneous inflammation, using different preparations of soap as the case required. A whitlow, if not already too far advanced, yields very promptly to the influence of warm applications of spiritus saponis kalini.\* But one of the most satisfactory of affections to treat is bubo; and since Beetz has introduced his treatment, he has never found it necessary to treat buboes otherwise. For the last nine years his treatment in certain affections has been as follows:—For chronic glandular indurations or abscesses in places in which it is difficult to apply dressings, he uses inunction in the evening with green soap, which is washed away the next morning, and repeated during three or four days with a subsequent interval of a day or more, according to the sensitiveness of the skin. For acute glandular inflammation, whitlows, and abscesses in easily accessible positions, linen rags are steeped in spirit of soap, applied to the part, and covered with gutta-percha paper. These dressings must be accurately applied, if they are to fulfil their object. For example, in inflammation of the inguinal glands, a good result can be expected only if the surgeon himself fixes the dressing with a spica bandage and safety-pins, not leaving it to the skill of the patient himself. There will be, not a tedious suppuration, but a very small abscess, with little or no trouble in walking (as there will be no infiltration). A number of other more serious diseases are enumerated in which, it is stated, a similar mode of treatment has been successful.

\* This preparation is a solution of two ounces of green soap in an ounce of alcohol, to which, after filtration, are added two drachms of spirit of lavender. An elegant preparation is obtained by dissolving the soap in Eau-de-Cologne.

## PART IV.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—WILLIAM STOKES, M.D., F.R.C.S.I.,  
Secretary—E. H. BENNETT, M.D.

*Resections of the Knee-Joint.*—The PRESIDENT said: The group of specimens I beg to lay before the Society I obtained from resections of the knee-joint in six different patients. The last is one on which I operated on the 8th of this month. It was the case of a boy nine years of age. The history we got was that while engaged in sliding last December he got a fall. The boy complained of some pain in the knee after this; but there never was any history of acute synovial inflammation of the joint. About a month afterwards he complained of difficulty of walking, pain, and aching in the joint after slight exertion, but still not to such an extent as to make his friends think it necessary to seek advice for him. He was brought to the Richmond Hospital at the beginning of this month; and I found that the knee had all the external physical characters of what we see so many examples of—namely, pulpy gelatinous thickening of the synovial membrane. The knee was globular; there was an absence of the hollow on the inside of the patella; there was a commencing partial displacement of the tibia backwards, and there was the peculiar gelatinous india-rubber sensation communicated by the thickening of the soft tissues on each side of the joint; but there was no indication of any fluid or fluctuating points. The boy did not suffer from any violent pain, and there was no evidence of ulcerative action in the cartilages. Under the circumstances, and as his position was not such as to warrant me in depending on expectant treatment, I resected the knee-joint on the 8th of March. I am happy to say that so far the case has taken a perfectly aseptic course. Yesterday was the tenth day, and there was not a trace of any discharge whatever—in fact, the wound is completely united by primary union. As I anticipated before performing the operation, I found nothing more than a very well-marked

example of pulpy, frogspawn-like thickening of the synovial membrane, which was very extensive. The cartilages and the bone are perfectly healthy. On one surface of the patella there is a little thinning of the cartilage; but practically the disease is limited to the synovial membrane.

In contradistinction to that case, I have next to exhibit a specimen from a case on which I operated last November. It was that of a man aged thirty-six, who had led a very intemperate life, and who had received more than one injury in various brawls in which he had been engaged. His knee became enlarged, and very painful; and he suffered for some time in the early stages of the disease from very acute symptoms, which included the violent lancinating or shooting pains, which are characteristic of ulceration of the cartilages. When he came to the hospital there was no evidence of accumulation of fluid, but there was of thickening of the synovial membrane. I was not, however, prepared for the enormous amount of disease that I found on performing resection. The specimen before the Society is a better illustration of ulcerative carious condition of the knee-joint than any I have yet seen. The bone looks as if rats had commenced gnawing at it. There is one feature which I cannot easily explain—namely, the two projecting pieces of bone, which stand out like buttresses at each side of the condyles, and differing very much in colour and appearance from the surrounding osseous structure. They are perfectly white, hard, and eburnated, and stand out in bold relief from the surrounding parts. How these two islands of bone were preserved, or how it is that they assumed this form and appearance, I am not very clear. I have not seen any example of caries of this particular formation in any bone that I have seen. I cannot give so satisfactory an account of the progress of this case as I did of the first one. For six weeks it went on extremely well. The wound united almost perfectly, and I was very hopeful of obtaining success. But about the commencement of January an abscess formed at the inside of the joint. This was opened, and ever since profuse suppuration has been coming from it, by which the patient has been greatly worn down. An opening occurred on the other side, and the suppuration became so profuse, the exhaustion of the patient so extreme, and he became so hectic, that I determined to amputate the limb; which I did last Wednesday. There was no evidence of osseous or fibrous union. It is interesting in a surgical point of view, as showing how well the bones have been kept in position by the plan we adopted of fixing the limb after the operation. The bones could not have remained in better apposition. Had the patient not been of such an advanced age—in truth, he looked more like forty-seven than thirty-seven—and had his habits not been so intemperate the probability is that I would have had a success in this case also.

This, the third specimen, is from a case of a child, eight years old, on whom I operated on the 1st of last May. It is also an example of pure

pulpy thickening, there being no evidence of disease extending beyond the synovial membrane. There was no history of either traumatism or struma, the child having been healthy with the exception of the affected part. The case did remarkably well. The wound united by primary union, and the patient returned home perfectly well.

I have the same account to give of the next two cases in which I operated on the 1st of last June, one patient being a boy of fifteen, and the other a boy of ten. The case just now before you was one of the most successful I ever had, the recovery having been more rapid than in any other I ever saw. As in the first, the disease was confined purely to the synovial membrane, neither the cartilages nor the bones being appreciably affected. The boy is now at school, and I have heard that he is perfectly well, and able to run about.

This case, too, turned out successfully, although the recovery was much more protracted; still it has been successful, and, like the others, for two reasons—namely, that the disease was limited to the soft structures, and that the patient was youthful. As an example of the bad results of excision we have these two cases, in both of which the disease was extensive, and involved not merely the soft but the osseous structures, and in both of which the patients were delicate.

This was another case in which I operated last year, and in which the tibia had to be amputated. The practical outcome of all these cases shows that the chance of successful resection depends chiefly on the disease being limited, on the operation being undertaken at an early stage, and on the patient being youthful. I cannot recall a single other instance, either of a child or an adult, in which, where the bones were extensively diseased, the result was satisfactory. On the other hand, if the case be dealt with at an early stage, before the bones are attacked, I think there is every prospect of success.

DR. BENNETT said that in many joints, macerated as these were, and whether they had been the subject of resection or not, but in which there had been carious disease of the joints or limbs, he had seen the same appearance that was now presented. There was here actual necrosis, which had not had time to lead to separation of the sequestrum. He had examined the specimens microscopically; and the reason of the polished surface was, that the cartilage had been macerated off by the disease, but the articular layer of bone, being already dead, had not undergone absorption.

The PRESIDENT said he thought at first that the buttresses which he and Professor Bennett had alluded to might have been due to condensation and pressure; but the opposite points were soft and carious. He could not quite endorse what Dr. Bennett had said as to such appearances being so frequently observed. So far as the present specimens were concerned one would not expect the soft structures to show such

changes as were here observed, because the bones were not involved; but in other specimens—and there were a large number in the Museum of the College of Surgeons and in other museums—where he had seen examples of carious bone, he had not observed conditions similar to the one he had now the honour of laying before the Society.—*March 18, 1882.*

*United Fractures of Vertebral Bodies and of the Odontoid Process.*—**DR. BENNETT** said: I am anxious to show three examples of fractures of the bodies of the vertebræ of an exceptional character. They are exceptional in form and also in the fact that the fractures did not materially involve the spinal canal. They are also exceptional in exhibiting examples of osseous union. The commonest form of fracture of the vertebræ is one which passes through the spine obliquely from above and behind downwards and forwards, involving commonly more than one vertebra, and the processes and arches, as well as the bodies, and implicating the canal—in fact, a fracture of the spine as a whole, not a limited fracture of a single bone or part of a bone. The vertebral bodies are liable to fracture by direct injury, such as occurs in gunshot or penetrating wounds. The form of fracture present in these instances I now exhibit is quite distinct from either of the preceding varieties. It is the form of injury described by Malgaigne and others as caused by crushing without very material displacement of the body, and it is of rare occurrence. The circumstance that Gurlt has placed two drawings of fractures of this kind as the frontispiece of his work is a sufficient proof of their rarity. In these two specimens of lumbar vertebræ, one being the fourth and the other the first, we have the same fractures, with just such a difference as is consistent with the strongest family likeness. In the first the upper surface is cleft in the centre transversely, and the fracture gapes; a disc of bone has been broken off the upper side of the body, which contains about a third of the mass, and the gaping of the fracture of the upper surface is caused by the slipping forwards and backwards respectively of the valves of the disc. The posterior fragment has been tilted upwards and backwards, and projects slightly into the canal for the spinal cord. The anterior fragment is displaced slightly forwards, and is crushed down on the front of the unbroken mass of the bone. The union which has taken place proves that the individual must have lived, in this case, for a considerable time—some months at least—after the injury. The next example shows a still more complete union, which is evidence of a still more protracted existence after the injury. There is just the same form of compression as in the other case, with a spreading out of the body, the fracture passing through the centre of the body from side to side, the anterior fragment being driven downwards and forwards upon the lower one so as to override it. In this, however, the under-surface of the body shows that the lower part, which was unbroken in the first specimen, has been crushed so that a

small piece of its left side has been fractured right through. In both these specimens the processes and arches of the bones are free from injury, the fractures being confined to the bodies and, where the line passes in relation to the pedicle, it turns sharply upwards to avoid this structure. A glance at these specimens makes it evident that they have been produced by compression of the bodies of the bones. A more remarkable example is this united fracture of axis which recently came into my possession. It is one in which the odontoid process and its base, with about two-thirds of the superior articular facette of the right side, were displaced from the remainder of the axis by fracture, and subsequently united in the condition of displacement by bone. The parts enumerated were evidently depressed by a crush downwards and forwards, the line of depression being almost vertical and nearly corresponding to the axis of the spine. It has been remarked by Hamilton that "in no case upon record has the patient survived this accident so long as in the case reported by Bigelow, and published by Parker of New York." In this instance the patient died precisely five months from the receipt of the injury, and there was no symptom of osseous union of the fracture. It is evident from the condition of the bone now before the Society that the individual must have lived for many years, for all the callus of the bone is fined down, and the fracture bears all the characters of an injury of old date. I do not think there has been recorded previously any case of complete bony union of the odontoid fracture. We have no life-history in any of these cases, for the specimens were obtained in dissection. They are of practical importance, as showing that a certain number of individuals who sustain such injuries recover from them.—*March 18, 1882.*

*Report on a case of Stricture of the Œsophagus.*—DR. PURSER said: I have to state the result of an examination of a case which Dr. Finny showed of disease of the œsophagus.\* It is an ordinary flat-celled epithelioma, with a secondary growth in the liver, being a repetition of the same form of disease. The centre of it is quite soft. This softened portion is composed of horny epithelial cells, while the outer portion is formed of large polygonal cells. Coming to the deeper portion of the growth, it is difficult to distinguish it from ordinary epithelioma, such as occurs in the disease of the lip and skin. The lymphatic glands have the same microscopical appearances. In the central portion are longitudinal cells. The whole growth is simply an ordinary flat-celled epithelioma.—*March 18, 1882.*

*Sudden Amaurosis resulting from a wound of lower eyelid.*—MR. ARTHUR BENSON said: This boy, James Traynor, aged eleven years, who is now before you, on Sunday last (12th of March, 1882) was playing at fencing with another boy, who gave him a prod with a piece of steel, wounding the

\* See *Dubl. Jour. of Med. Science*. Third Series. No. 128. August, 1882. P. 167.



lower eyelid, just above the margin of the orbit. He does not think the piece of steel could have gone deeply in, as it was about as thick as a pencil, square, and blunt at the end. The eyelid bled very little externally at the time. I saw him two hours after the accident. The eye was then somewhat protruded, and the lids tightly stretched and swollen, evidently from effusion of blood. The tension of the globe was normal. On raising the eyelids the cornea was perfectly normal, there was semi-dilatation of the pupil, and the iris only acted consentaneously with that of the other eye. The boy stated that he could see nothing, nor did the iris act, even under the stimulus of the condensed light of the gas lamp. I made an ophthalmoscopic examination, expecting to find a large hæmorrhage or signs of embolism or choked disc, or some such gross change, but found absolutely nothing to account for his blindness. The retina was perfectly normal, and its circulation uninterrupted. Next day I admitted him into St. Mark's Ophthalmic Hospital, and since then have watched him daily. The protrusion of the eye has since become less marked, and the motions of the globe are now nearly normal in extent; but the discoloration of the inferior portion of the ocular conjunctiva has become much more intense, it being now almost black in colour. The pupil is still semi-dilated, and fixed, acting only consentaneously. The media are all still perfectly transparent, and the fundus normal, the only change which appears to have taken place is a slight increase in the tortuosity of some of the vessels. The tension is normal, and vision still remains absolutely 0. The other eye is in all respects normal. A somewhat analogous case occurred, not long ago, at the Royal London Ophthalmic Hospital during an operation for strabismus. The eye suddenly became protruded with hæmorrhage into the capsule of Tenon or orbit; sight was immediately lost, and the retina, examined with the ophthalmoscope, showed appearances similar to those found in embolism of the central artery of the retina. The lesion in this case is thus, most probably, due to *pressure* on the optic nerve caused by the effused blood, and probably also to *stretching* of the nerve, resulting from the proptosis due to the same cause. It seems probable that the pressure, if present, exerts itself far back on the trunk of the optic nerve, posterior to the entrance of the central artery of the retina, else it would be difficult to imagine how it could escape pressure which would show itself in the disc. The hæmorrhage may have been conducted along the sheaths of the muscles to the narrow apex of the orbit where slight increase of bulk would exert greater pressure on the nerve against the bony walls. The sequel of the case will be of interest. I expect atrophy of the optic nerve will result, and, though some slight return of vision may occur, I hardly anticipate more. The case seems unique; at least I cannot find any similar case on record. It is certainly not a case of so-called "concussion of the retina."—*March 18, 1882.*



I may be permitted to exhibit the instrument which caused the injury to the eye of the boy whose case I have already, at the last meeting, submitted to the Society. It is a foil from which the button was broken off. The difficulty was to explain the injury to the optic nerve where so little external injury had been inflicted on the orbit. It is now quite easy to understand how a thrust with this instrument, producing a punctured wound, might have penetrated so deeply into the orbit as to pinch the optic nerve at its entrance through the optic foramen, and thus produce the total blindness; or, by wounding the sheath of the nerve, have allowed an effusion of blood under it. But it is still very remarkable that the pinch to the nerve should have been so severe as to produce total amaurosis, and at the same time so limited as not to injure the blood-vessels passing through along with the nerve. Since I last spoke of the case, signs of neuritis have developed, and a slight return of sight has occurred, but I believe the case will end in atrophy of the optic nerve.—*March 25, 1882.*

*Pyelo-nephritis.*—DR. BEATTY said: I was asked by Dr. Head to show the specimen which is now before you. A female, aged thirty-seven years, and married, was admitted into the Adelaide Hospital on the 25th of February, under the care of Dr. Head. About two years ago she received a hurt in the left lumbar region by being violently shoved against an open door. Ever since she had suffered great pain in that region, which at times shot down the inner side of the left thigh as far as the knee. Since Christmas she had had diarrhoea, with great pain and frequency of micturition, passing only very small quantities of urine each time. A tumour appeared in her left lumbar region which was tender and painful, and she had more or less pain over the abdomen. Lest the tumour might be due to faecal accumulation enemata were given; but these did not alter the dimensions of the tumour. Her micturition continued to be frequent and painful, only a few drops being passed each time. Poultices were applied over the abdomen. Traces of albumen were found in the urine, but no pus. The diarrhoea continued more or less up to her death; she got astringents and starch enemata, which had little effect. She subsequently got an attack of pneumonia, and died on the 20th of March. On opening the abdomen we found the right kidney enlarged and amyloid. The left kidney was enormously enlarged, its capsule much thickened, and on making a section of the kidney it was found to be a collection of abscesses, very little kidney-substance remaining. The abscesses contained a thin, unhealthy pus. The left ureter was greatly thickened, and its inner surface was studded with a number of yellow nodules all the way down as far as the bladder. The liver and spleen were amyloid. The base of the left lung was in the third stage of pneumonia; in the apex were a number of nodules; and section disclosed a

grey mass hard to the touch, which, I think, was tubercular. The apex of the right lung was in a similar condition to that of the left, and the middle lobe was emphysematous. The only history obtained from the patient was that she got this blow two years before, and that the pain had continued ever since. There was not any peritonitis. The right ureter was of normal size. There was no evidence of scrofula except the tubercle in the lungs. There was a very small calculus in the right ureter, but none in the left. There was no calculus in the kidney.

DR. FINNY said it was very unusual to have pyelonephritis without some obstruction of the ureter. Was there any cause to account for the occlusion? It seemed to him that scrofulous disease might have come on after the blow, and that a destruction and softening of parts might have afterwards occurred, leading to an escape of matter through the urethra. He thought it would be well to refer the specimen to a committee for a description of the condition of the parts. If the affection of the kidney had been merely purulent he did not see how the organ could have become so large as it was. It would have been turned into a number of cysts with thin walls instead of the great growth they had before them.

DR. J. W. MOORE thought the appearances were like those of strumous kidney as represented in the Atlas of Pathology of the Sydenham Society.

DR. BEATTY, in reply, said he did not mean to imply that the kidney might not be strumous in its character. The primary lesion was in the kidney and resulting from the blow.—*March 25, 1882.*

*Pericarditis.*—DR. WALTER SMITH said: The Society is indebted for this specimen to Sir William Miller, of Londonderry, who sent it to me through Dr. Creery, the House Surgeon of the Londonderry Infirmary. Notes of the case during life were not kept, and I can only indicate the pathological appearances as being those of recent acute rheumatic endo-pericarditis. *Post mortem* notes have been supplied by Dr. Creery. The specimen was taken from a girl aged twenty-three, who was admitted into the Londonderry Infirmary on the 17th January, suffering from acute rheumatism. She had well-marked cardiac symptoms from the first, and died asphyxiated. The *post mortem* was made two days afterwards. A large amount of serous effusion—about three pints—was found in the left pleural cavity; and the left lung was condensed into an airless mass, weighing about 8½ ounces, while the right lung weighed 23½ ounces. The pericardium was distended with straw-coloured fluid, rather darker than that contained in the pleural cavity. On turning up the interior layer of the pericardium, it affords an example of universal acute diffuse pericarditis invading the entire of the parietal and visceral surfaces of the pericardium, both front and back. On looking into the state of the valves and cavities of the heart, the aortic valves present the

appearances one is familiar with in the early stages of valvulitis, being festooned along the margins of the lunulæ and over the edges of the valves, and along the auricular surface of the mitral valve are evidences of thickening and beady exudation. The muscular tissue of the heart appears to be fairly firm. There was a good deal of rheumatic fever in Londonderry during the past spring; and that coincides with what was observed in Dublin, for a considerable number of acute rheumatic cases, with cardiac complications, occurred in the Dublin hospitals.—*March 25, 1882.*

*Suppurative Cyclitis Oculi.*—MR. ARTHUR BENSON said: This specimen is the eye of a man who has been for some time under treatment in St. Mark's Ophthalmic Hospital. I enucleated it for suppurative cyclitis. It shows the suppuration to have completely implicated the ciliary body and processes, leaving the retina proper perfectly free. You see the line of demarcation sharply accentuated between the ciliary processes and the retina proper. The vitreous is infiltrated with streaks of pus, and when it was first taken out you could see the striæ of pus running through it in the most beautiful way. The posterior portion of the vitreous is transparent; the anterior is streaked with lines of purulent opacity, spreading out from the ciliary body all round. The case is one of a punctured wound through the cornea and anterior chamber, caused by a thorn. I believe a portion of the thorn remained in the eye, although I have not found it. No treatment that we adopted could reduce the inflammation, which went on increasing. I first removed the lens, and that not being productive of any good result, I removed the eye. It is three weeks since the injury occurred, and there has been more or less acute inflammation ever since.—*March 25, 1882.*

*Calculous Pyelitis: Iliac Abscess.*—DR. J. W. MOORE said: This case is one of calculous pyelitis of the right kidney, which was followed by an interesting series of pathological phenomena—namely, first perforation of the pelvis of the kidney setting up perinephritis, which terminated in perinephritic abscess, with suppurative disintegration of the psoas muscle; then the formation of an iliac abscess; and, finally, the discharge of the contents of that abscess into the intestine. My clinical clerk, Mr. Riordan, made the following note of the case:—"A woman, aged twenty-eight years, by occupation a bookfolder, married nine years, but childless, was admitted on February 6th, 1882. She had been ill a fortnight when she consulted Dr. Moore at the dispensary of the Meath Hospital. She stated that she first took a shivering of cold between the shoulders and in the chest, but she worked up to the 2nd of February, when pains in her bones and a raging headache set in, and she was obliged to take to her bed. She attributed her illness to the fact that

she got several wettings going to her business, and then sitting in wet boots all day. On her admission she had a slight cough, her appetite was completely gone, and her bowels were confined; she complained principally of a dull aching pain in the right lumbar region and hip, saying that if she were rid of that she would be all right. The catamenia were regular. Physical examination of the thoracic cavity showed that the heart was healthy. There was evidence of hypostatic congestion at the base of the lungs. The lumbar pain at once directed attention to the kidneys, and on examination of the urine albumen was found in considerable quantity, and pus was also present. Soon afterwards the pain increased, and a distinct tumour became visible directly internal to the anterior superior spinous process of the right ilium, extending inwards almost to the mesial line. On Feb. 24 there were marked chilliness, diarrhoea, and sickness of stomach; the latter was a distressing symptom to the end. On March 2, simultaneously with a subsidence of the pyrexia, the pulse became weak and thready, while the retching and vomiting continued. At this time inability to extend the right leg was observed, and there was some œdema of both feet. This permanent flexion and œdema remained to the last. On March 5, with a slight temporary rise of temperature, the general state somewhat improved. She was able to retain small sips of brandy, but the local pain became more acute. From March 7 to March 11 the quantity of pus in the urine was much augmented. On the 11th, however, the patient became conscious of something having given way inside, and three large, exceedingly foetid, purulent motions were passed within a few hours. The case was clear. The abscess, whatever its anatomical seat, had opened into the intestine, and its purulent contents were being expelled per anum. This change at the seat of disease resulted in no permanent improvement in the patient's condition. At first there was an apparent rally, but in three or four days it was evident that she was sinking. She was now in a condition of extreme emaciation. For three weeks she declined all solid food; half a teaspoonful of brandy occasionally was the only support which nature tolerated. For 12 days before her death her temperature was subnormal, even when the observations were taken in the vagina. On March 19 the pulse became intermittent for the first time, and the general state was at the lowest ebb. On March 21, at 1 30 a.m., she died. At the autopsy, which was made eleven hours after death, the lungs were found fairly healthy, there being only slight hypostatic congestion. Two or three pleural adhesive bands were observed. The heart was fairly well nourished and healthy, but with a considerable deposit of fat on the surface, so usual in wasting diseases. On opening the abdominal cavity a quantity of pus welled up in the right iliac region, and on gentle pressure being made a mixture of pus and faeces welled up as before. Digital examination in this region

revealed an opening into the middle of the ascending colon, large enough to admit the tip of the index finger. Another smaller opening was subsequently observed two inches higher up. Each opening was surrounded by a vascular ring, showing that they were of *ante mortem* formation. The external and anterior surfaces of the ascending colon were thickened and adherent to the anterior wall of the abdomen from one inch below to one inch above the level of the anterior superior spinous process of the ilium. When the intestines were removed the right kidney was found to be displaced, and its contour altered. It was intimately adherent behind to the disorganised right psoas magnus, and in front and laterally to thickened fibrous tissue. The corresponding ureter was found much thickened by a chronic inflammatory process, and was almost impervious. The left kidney was the seat of enormous compensatory hypertrophy, which had been manifestly followed by secondary fatty degenerative changes. It weighed not less than 14 ounces. The left ovary was extremely atrophied and fatty; the os uteri was congested; the liver was adherent to the right kidney, and at the point of union a somewhat extensive perihepatitis was observed. The parenchyma of the viscus was healthy, and free from pyæmic abscesses. A large collection of pus was situated in the iliac fossa, between the psoas and iliacus muscles (10–20 ounces), the suppuration extending upwards in the substance of the psoas to its origin, and downwards nearly as far as Poupert's ligament. The inflammation also extended into the true pelvis, causing thickening of the fascia covering the pyriformis muscle on the right side. On examining the right kidney the pelvis was found to be occupied by a calculus ( $\frac{3}{4} \times \frac{1}{2}$  in.), consisting of calcium oxalate. This was manifestly the *fons et origo mali*, which set up a pyelitis and nephritis, leading to degeneration of the parenchyma into fibrous and fatty tissue; to perinephritis and to suppuration along a fistulous track, travelling from the pelvis of the kidney to the substance of the psoas; to extensive breaking down into pus of the structures in this region; to the bursting of the abscess into the intestine; and, finally, to death from prolonged suppuration and asthenia.

It may be well to draw attention to the clinical chart. The ranges of temperature are suggestive of septicæmia. A distinct tertian tendency is shown in the chart. Fastigia or acmes of temperature are seen to have occurred every third day or so. The pyrexia continued for about five weeks. Our reading of the case while she was under observation in hospital was that her illness had originated as an attack of pyelitis of the right kidney. The absence of anasarca was attributed to the circumstance that the left kidney was doing double work, and was not diseased. We believed also that the pyelitis, as sometimes occurs, had caused perforation, and that the result was perinephritis, and a perinephritic abscess. We came to the conclusion that it made its way downwards along the

front of the psoas muscle, and that it ultimately gave rise to an iliac abscess, which at last ruptured into the cæcum and the first stage of the ascending colon. Scarcely any traces of the parenchyma of the right kidney are distinguishable. The whole kidney has been converted into a mass of connective tissue and of fat, which is intimately adherent posteriorly to a portion of the psoas muscle. The bladder presents evidence of subacute cystitis. It was only during the last ten days or fortnight of her life that the urine became alkaline. Amongst the other points of interest in the case we should bear in mind that the woman was childless. Both ovaries seemed in a state of extreme degeneration, and this perhaps had something to say to her childless condition. Dr. Bennett kindly examined the calculus, which was apparently the starting-point of the disease. On chemical and microscopical examination it proved to consist of calcium oxalate. The right side of the right lobe of the liver was very firmly adherent to the diseased structures near the kidney. There was very marked hepatitis.

**THE PRESIDENT.**—The case is one of exceptional interest, as bearing on recent proposals which have been made, where renal calculi are suspected, of making exploratory incisions, and looking for the calculus and extracting it. The great difficulty is the diagnosis of the condition; but some very interesting cases have been recently recorded in which the operation has been performed with success.

**DR. BENNETT.**—The disease was strictly limited to one side, so that this case would have been particularly suited for the operation. Another point of interest is the extreme atrophy of the kidney, for one of the terrors that the surgeon has to deal with is the liability to troublesome hæmorrhage; and though it does not always prove so serious as is apprehended, still the idea of its occurrence exists, and it would be a great advantage if such a condition as that which exists here, and which would explain immunity from hæmorrhage, could be relied on as likely to exist where calculi have to be extracted from the kidneys.

**DR. HENRY KENNEDY.**—Abscesses about the kidneys are common enough, but as implicating the psoas muscle they are very rare. I do not know of a case of the kind in which the abscess burst into the intestines. Generally the urine is loaded with pus, and seems to be able to carry it off.

**DR. MOORE,** in reply.—I omitted to mention one point of great clinical interest—namely, that the pus had been increasing in the urine up to the time that the purulent diarrhoea set in; but the moment that occurred the pus practically disappeared from the urine. It is quite evident that the iliac abscess had been welling up along the fistulous tract through the opening into the pelvis of the kidney, whence it found its way out through the bladder. But the moment the relief occurred below the pus ceased to travel by that circuitous route.—*March 25, 1882.*



# TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

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SESSION 1881-82.

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President—PROFESSOR CUMING, M.D.  
Hon. Secretary—WILLIAM WHITLA, M.D.

*Tuesday, June 13, 1882.*

The PRESIDENT in the Chair.

*Notes of a Case of Rupture of the Uterus.* By W. S. CORE, M.D.

On the 12th April last I was requested to see R. A. M., a married woman of thirty-six years of age, pregnant for the ninth time and expecting her delivery in about a month. She had that morning a slight "show," some pains, was frightened, and hence the summons. On examination per vaginam I found the os uteri undilated, the cervix hard, thickened, and fissured, and the head presenting. There being at the time neither hæmorrhage nor uterine action, I prescribed rest in bed, and two grains of opium. I left, giving directions that I should be sent for when labour set in. At ten o'clock on the following morning I learned from a messenger that there had been pains and some loss during the night, but that neither had been such as to cause the woman to wish me to be sent for. I arranged to call at eleven o'clock, the messenger having been instructed that there was no urgency. On calling I found from the patient herself that the pains had been pretty constant and pretty severe for about two hours, but that from about ten minutes before my arrival none had occurred. She was restless, but did not make any complaint, and the bed being in a dark and nearly inaccessible recess in a badly lighted room, I did not at first notice anything particular in her appearance, and up to this time neither the patient nor any of those around her had any idea that there was anything in her condition more than ordinary.

On making an examination I found the os two-thirds dilated, and occupied by a soft mass, feeling rather like a placenta, but which further investigation proved to be a clot. Not being able to reach the head, which the previous day had been presenting, I passed my hand over the abdomen, and was easily able to make out that nothing intervened between it and the foetus but the abdominal wall. That a rupture of the uterus had taken place, with a partial escape of the foetus into the



abdominal cavity, was unfortunately only too apparent; and as collapse was slight I decided, after sending for assistance, to administer a dose of ergot, and deliver as speedily as possible. This was done in a few seconds by turning and without any difficulty, the foetus being dead and considerably decomposed. In the hope, rather than expectation, of ensuring contraction and thereby stopping hæmorrhage, I introduced my hand into the womb, found that the placenta was lying loose in the abdomen, having passed through a rent in the anterior wall near the fundus, through which also a hernia of the intestines had taken place. There was no contraction, and the placenta was easily removed. Half an hour after delivery was completed death took place. I found, on referring to my obstetric case-book, that on February 29th, 1880, I was asked to see the same woman, who was said to have been for a considerable time in labour, the expulsive effort having been very forcible and frequent, but quite ineffectual. After examination I caused her to assume a dorsal position, which, by rectifying an extreme anteversion of the womb, allowed the labour to proceed quickly and naturally to its termination.

On making subsequent inquiries I learned that for the last four months of the pregnancy which ended fatally, Mrs. M. had been in bad health, which dated from a tedious attendance on one of her children who died. During these months she had suffered from a fixed pain, which, from description, appears to have been at the fundus of the womb. The comparative ease, so to speak, with which the rupture in this case took place is noticeable, the actual rent not having been preceded by any violent uterine action, and not being accompanied by pain or by any sensation of anything having given way. Taking the circumstances of the previous confinement into consideration, and remembering the state of health of the patient during the preceding four months, it would seem that ordinary uterine action, rendered ineffectual probably by a want of parallelism between the long axis of the womb and that of the inlet, and to some degree also by a hypertrophied cervix, was too great a strain upon the muscular tissue near the fundus (weakened at that part by a localised metritis) which consequently, to use a graphic phrase, tore like wet brown paper. The exact pathological condition is unknown, no *post mortem* examination having been allowed.

*Notes of a Case of Scurvy occurring in a Landsman.* By W. S. CORE, M.D.

SCURVY, which in past ages was such a human scourge that we find it stated as probable "that it has been more destructive to mankind than any other disorder," is now so rare, at least in civil practice, that I thought the notes of the following case might not be uninteresting—masked as it was at first, and the diagnosis obscured by an injury.

The ætiology of the disease still being unsettled renders it also desirable

that any case which might assist in the determination should be recorded.

On the 16th December, 1879, I was requested to see W. A., a locomotive engine-driver, who, I was informed, had sustained an injury at the Northern Co.'s Railway. On visiting him I learned that some days before he had been standing on the upper step of his engine, the weight of the body resting on the toes of the left foot, he holding on by the handrail. His foot slipped off the step unto another similar one about two feet lower, when he felt as if something had given way in his leg, coupled with a sharp burning pain. He was able, although with difficulty, to remain at his work for a week, when, finding himself getting worse, he sent for me.

On examination I found the injured limb semiflexed, a hard swelling in the popliteal space, and reaching half way down the muscles of the calf, the skin extensively ecchymosed, part of the discoloration being recent and part fading away. There was slight tenderness. He not only made no other complaint, but said his health was as good as usual. His face was of an ashen hue, but as I knew his colour was bad at the best I paid no attention to that.

I was astonished that he had been able to walk about so long after what the signs appeared to prove had been a considerable rupture in the muscles of the calf. My astonishment, however, carried me no further in my investigations, and I prescribed strict rest for the limb, and an evaporating lotion. Under this treatment no improvement took place, fresh effusion occurring from time to time, while the old discoloration faded away. On attempting on one occasion to get out of bed a fainting fit occurred, lasting long enough to cause serious alarm.

So matters were, when at one visit I saw a new ecchymosis situated in the hollow beside the tendo Achillis, quite unconnected with the original seat of injury. Guided by this ray of light, I found enough in a few seconds to establish the diagnosis of a well-marked case of scorbutus, a disease now so rare in this potato-eating country as perhaps to palliate its being for a time overlooked. There were extensive ecchymoses at both ankles, at the gluteal folds, and reaching down the thighs, as well as brawny swellings in both hams, with contraction of the hamstring muscles. The gums were spongy, rising up so as almost to hide the teeth, and bleeding when touched; the breath foetid; pulse 120 and weak. When asked why he had never complained about his mouth, he replied that he had attributed its condition to having given up smoking when he took to bed, and did not think it worth while to mention it.

A piece of characteristic information now came out—viz., that the patient had for some time thought that his skin must be getting very thin, as he could hardly dry his face with an ordinary towel without drawing blood.

His diet had always been, as he thought, of the most liberal kind, consisting of plenty of beef and mutton, bacon, eggs, bread and tea, oatmeal porridge and milk. For twenty years, however, he had not eaten potatoes, except a few each autumn when they were new, and from the time he had come to Belfast to live, about three years before, he had eaten neither these nor any other fresh vegetable.

The diagnosis being clear, the prognosis was confident and reassuring, and the treatment easy. Plenty of mashed potatoes and other antiscorbutic vegetables, with lemon juice *ad libitum*, made in a few days a marked improvement.

No further ecchymoses took place, the old ones gradually disappeared, the gums regained their normal condition, and strength returned. The hard swellings behind the knees and the contractions of the hamstring muscles remained longest, but these, too, disappeared, seemingly assisted by occasional faradisation, so that he was able to resume work after having been absent eleven weeks.

In this case, but one of the many, circumstances which at various times have been supposed to be causes of scurvy was in operation. The patient, a well-to-do mechanic, was temperate in habit, always warmly clad, had from the nature of his employment an exceptional amount of fresh air, was accustomed to a good allowance of animal food, was subject, as far as I could make out, to no depressing influences whatever—all these favourable circumstances, however, being inefficient in maintaining health, fresh vegetables being wanting. The latter having been supplied, recovery at once took place.

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*Tuesday, July 11, 1882.*

*Acute Ascending Paralysis ; Landry's Paralysis.* By ALEXANDER DEMPSEY, M.D., L.R.C.S.I.

ACUTE ascending paralysis is a disease of such comparative rarity that I believe the details of the following case will be found interesting to the Society.

Rev. A. B., aged thirty-six, of dark complexion and feeble constitution, was seen by me on the 14th of March, 1882.

*Previous History.*—He had an attack of typhus fever about eleven years ago of a very severe nature, and from which he made a slow recovery. From that time he had shortness of breath and a slight cough, and from my own knowledge he had crepitus at the apex of his left lung for seven years. This appeared to be stationary, and did not give him much trouble. He was able to attend to all his duties, which latterly were of an onerous nature—in fact he was doing the work of a fellow-clergyman as well as his own. Previous to his illness many of his friends

remarked that this extra work was telling upon him. About the middle of February he had to attend some cases of small-pox, and, being afraid of the disease, he asked me to re-vaccinate him, which I did on the 21st of February with calf lymph. It took well, and ran through the usual course—the scab falling off a day or so before my visit to him on the 14th of March.

His present illness commenced on the 5th of March with a cold in the head and in the chest—with cough and expectoration. An eruption of herpes appeared at the same time on his mouth and nose. He felt generally out of sorts, but was not so ill as to necessitate his remaining in bed or even in the house. He attended to his clerical duties, though not so much as usual, but this was more because of the unsightly eruption on his face than of his unfitness for the work. His appetite was not affected. On the morning of the 10th of March, while shaving, he remarked a numbness and want of sensation in his fingers. He could not feel the razor in his hand. This numbness was felt in the thumb and the two first fingers of both hands, and extended as high as the wrists. Numbness was also felt along the backs of the thighs and legs, and in the soles of the feet. On Sunday, the 12th of March, with these symptoms unchanged, he officiated twice, and in the evening preached for nearly an hour. He felt very much exhausted after this effort. The next day he was a little better, and, the day being fine, he went out for a long walk. He attributed the numbness in the legs to bad circulation, and he thought a good walk would make him all right. He walked very fast for about four miles, but did not feel his feet touching the road. The sensation was similar to that of walking on deep snow. He was thoroughly exhausted when he came home, but eat a good dinner. Before going to bed he took a large dose of Eno's fruit salt, which acted several times during the night. He rested very badly—felt hot and uncomfortable, and perspired very freely. However, perspirations had been very profuse for the last two or three nights.

The following day I found him sitting at the window with a newspaper beside him, which he had been trying to read, but the letters after a time became so blurred and indistinct that he was obliged to give it up. This temporary defect of vision was the only one complained of during his entire illness. The conjunctivæ were congested, and the pupils moderately contracted. This condition of the pupils remained throughout. The conjunctivæ, however, in a day or so became normal. His face was deadly pale, and the expression worn and haggard. From the beginning he had neither dizziness, headache, nor pains in the back or legs. Pressure on the spinous processes did not cause pain. His legs and hands were quite cold, though he felt a burning heat in them. His grasp was moderately firm. The patellar tendon reflex was present. On getting him to walk I noticed slight unsteadiness in his gait. He lifted his

feet well off the floor, but let them down in a tremulous clumsy way, somewhat like an ataxic patient. He complained of great weakness in his legs and back. Pulse was 74, and temperature  $98^{\circ}$ ; tongue was coated with a light yellow fur in the centre, red and moist at the edges and tip. There was no disturbance of the bladder. He passed water freely, which was loaded with lithates, but was free from albumen. Breathing was hurried, and there was dulness and crepitus at the left apex, and moist râles scattered through both lungs. Expectoration was thick, and slightly rusty in colour. The heart's sounds were healthy and regular, but the pulsations were forcible and visible over the front of the chest. His mind was perfectly clear. I prescribed bromide and iodide of potassium, a mustard foot bath, a large mustard blister to the back, and rest in bed.

March 15th.—Pulse 70, temp. normal. Spent a very restless night. Complains of an intolerable burning heat in the legs and up along the spine. This was the most annoying symptom he had, and it continued during the remainder of his illness. He also complained of burning heat in his mouth, but he had no thirst. The weakness in his legs is increasing. He attempted to get out of bed in the morning, but fell on the floor. He can draw his legs fully and quickly up to him in bed, or move them about, and he can raise his arms up or move them in any direction, but his grasp is much more feeble than it was yesterday. I got him out on the floor. He raised himself off the bed with great difficulty, and when up could not stand without support. His legs were very weak and gave way under him, and this was especially the case when he attempted to turn on the floor. This effort to walk quite exhausted him. Patellar reflex is present, but more feeble. Has some difficulty in swallowing to-day—some tea taken quickly came back through his nose. There is no paralysis of the face, and he protrudes the tongue in a straight line, and there is no difficulty of speech. During the night had a sharp boring pain in the head; it only lasted for a short time, and was the only actual pain which he had anywhere during his entire illness. Sensation was impaired, but not lost. Contact with the skin was delayed in perception, and this was especially the case in the lower parts of the legs. Sensibility was not further disturbed during the disease. The cough was troublesome owing to the accumulation of phlegm, and there was an evident inability to expectorate it though it was quite loose. I had the advantage of Dr. Cuming's assistance in the case to-day. The bowels not having acted since, we prescribed a brisk purge, and the bromide was reduced in quantity and the iodide increased, while derivatives were applied along the spine.

March 16th.—Pulse 60, temperature normal. Had one hard motion this morning. Has difficulty now in drawing the legs up to him, and there is less power in the arms. Sitting up and turning in bed are

becoming impossible without help. No muscular twitchings or spasmodic manifestations in the extremities, nor pain on touch or pressure anywhere. The difficulty of swallowing is increasing; urine is passed freely; perspirations have ceased.

March 17th.—Pulse 60, temp. 98°. During the night was almost suffocated with the secretion which accumulated in his chest, and which he was unable to expectorate. Cannot turn or raise himself in bed. Legs are quite lax, and the greatest efforts only cause the slightest movement in them. They offer no resistance to passive movements, and exhibit no kind of tension or twitchings. If fully flexed upon the abdomen it gives rise to slight pain. The patellar reflex is completely absent in both legs. Arms can still be raised off the bed in a tremulous zigzag way. He is no longer able to grasp the hand. The respiration is still more embarrassed, but the movements of the diaphragm are unimpaired. Deglutition increasing in difficulty. Speech is slightly thickish, but the mind is perfectly clear. At 4 p.m. his pulse was 58 and very weak. Deglutition had become so difficult that he was almost unable to swallow anything.

When then with him I gave him a pill. After a long time he got it down, but was uncertain of the fact, and insisted on me examining his mouth to see if it was not still in it. Respiration was very much embarrassed, and he was making constant but ineffectual efforts to expectorate.

There was now complete paralysis of the legs, but he was still able to move the arms a little. The bowels have never acted, though repeated purgatives have been administered. The functions of the bladder are still unimpaired. There is no paralysis of the face, he can shut his eyes, and corrugate his eyebrows. There was no appearance of bed-sores. He died at 7.30 p.m. He was wanting to get out of bed, and his legs were pulled over the edge for him. He was raised a little up, but immediately expressed a wish to be let down again, and he quietly expired.

That was the eighth day after the first symptoms of numbness, the fourth day after the first indication of motor paralysis, and the thirteenth day after catching cold.

*Remarks.*—We had not the advantage in this case of verifying our diagnosis by a *post mortem* examination, but the history and symptoms of the disease were so well defined that I think we were justified in founding a positive diagnosis upon them. A *post mortem* examination, however, in this disease has not revealed in any case yet reported any anatomical changes in either the spinal cord, the medulla oblongata, the brain, the sympathetic nerves, the peripheral nerve trunks, or the muscles.

In the spinal canal, where the symptoms would lead one to expect to find evidence of anatomical change, nothing of an abnormal kind has been discovered.

Neither hyperæmia, myelitis, destruction of ganglion, or of nerve fibres has been found by any of the methods at present available for patholo-



gical investigation, so that the disease must be due to some impalpable disturbance of nutrition of so fine a nature as to escape detection.

However, Dr. Ross, of Manchester, in his work on "Diseases of the Nervous System," publishes a case which was diagnosed as acute ascending paralysis, and in which, on *post mortem* examination, the central column, the median area, and the central group of ganglion cells, were found to be diseased. "The diseased areas showed granular degeneration of Gerlach's nerve network, complete disappearance of the ganglion cells, increase of nuclei, and dilatation and congestion of blood-vessels." But this patient, who *was a female*, was not seen by Dr. Ross during life, and the history given of her illness is somewhat imperfect.

The absence of paralysis of the sphincters was one of the strong points which we relied on in distinguishing this disease from acute central myelitis. In the latter disease it is often the first symptom which attracts attention, or if not it generally sets in early in the disease. The functions of the sphincters of the bladder and rectum were perfect until the last; indeed, in the case of the latter, obstinate obstipation was one of our greatest difficulties in the treatment—due, no doubt to paralysis of the abdominal muscles and the muscular coats of the intestines.

Again, the character of the onset of the attack and the gradual progress of the disease were different from the usual course of acute myelitis. Its inception was marked by none of the severe disturbances of sensation or of motion which generally characterise the beginning of the latter disease. There were neither muscular spasms, contractions, fibrillar twitchings, nor even pains, during the entire course of the illness, and the sensation was only very slightly impaired.

The progress of the disease was also characteristic of acute ascending paralysis, as first described by Landry, and more recently by Westphal. It slowly crept over the body, without fever, delirium, loss of intelligence or memory, or the development of decubitus, and finally attacked the functions of the medulla oblongata, producing paralysis of deglutition, asphyxia and death.

The condition of the patellar reflex is a point of importance in the present case. There is only one case reported by Westphal in which it was found lacking. In our patient, with the advance of the disease it gradually became extinct, and on the last day of his illness was entirely absent.

In acute myelitis there is early failure of all reflex actions. In the latter disease there is also a rapid development of acute bedsores—a complication which did not arise in the present case.

From acute myelitis disseminata the distinction is not so easy; however, in it, too, there is generally paralysis of the sphincters and spastic symptoms, but often it is impossible to decide the question positively without the aid of a *post mortem* examination.

In the causation of the disease, catching cold, mental and physical



exertion, and some others, are mentioned. In the present case cold, fatigue, and residence in a damp house, are most likely to have contributed to the production of the disease, but there is a possibility, perhaps a probability, that the vaccination may have been the exciting cause, or at least that it may have had something to do with its ætiology. The infection of variola is said to exercise a great influence in the production of acute myelitis. May not the vaccine virus, in a constitution already lowered by conditions seriously affecting the nervous system, have a similar effect?

If the vaccination in this case had anything to do with the production of the disease it would strongly favour the theory put forward by Westphal, Landry, and others, that acute ascending paralysis is a disease depending upon some intoxication of the blood—because what more likely channel of entrance for bacteria into the blood than by inoculation with calf lymph from an unhealthy animal.

The present is the first case of this special form of disease which I have ever met with, and I think that—even without the light which a *post mortem* examination would have thrown upon it—it is deserving of record.

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#### THE TREATMENT OF ERYSIPELAS.

DR. HASTREITER recommends the treatment of erysipelas by painting with oil of turpentine, on the following grounds:—1. It can be employed on the most sensitive patients, does not require any skill, and can be applied by the patient himself as often as may be necessary, and the irritation produced by excessive friction is avoided. During its application the eyes should be protected by a pad. 2. When employed frequently enough this method is perfectly safe, and tends to produce a rapid cure. 3. Oil of turpentine can be procured everywhere. 4. All other dressings are unnecessary. 5. Internal antipyretic treatment is only rarely necessary; usually all that is necessary is to bathe the body with cold water, and to make use of cold applications to the head. 6. The inhalation of the vapour of turpentine can, perhaps, act as a preventive of the extension of the disease to the air-passages. 7. When employed at the outset of the disease it may abort the morbid process. 8. The oil of turpentine may also be employed in phlegmonous inflammation other than erysipelas.—*Wiener med. Presse*, June 18, 1882, and *N. Y. Med. News*, July 29, 1882. [The local application of tincture of iodine in erysipelas, has lately been strongly advocated by several writers in the *Brit. Med. Jour.*—ED. PERISCOPE.]

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, September 9, 1882.*

Towns	Population in 1881 (Unrevised)	Births Registered	DEATHS REGISTERED			DEATHS FROM ZYMOTIC DISEASES							Deaths from Phthisis	Annual Rate of Mortality per 1,000 Inhabitants
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		
Dublin, -	348,298	688	659	163	130	-	3	3	3	8	19	62	78	24·6
Belfast, -	207,671	524	378	87	60	-	12	11	-	5	9	37	58	23·4
Cork, -	78,361	168	110	16	30	-	2	1	1	-	-	8	15	18·3
Limerick, -	38,600	70	51	9	15	-	-	1	-	-	-	5	3	17·2
Derry, -	28,947	82	67	7	17	-	3	1	2	-	6	-	7	30·1
Waterford, -	22,401	42	47	8	9	-	-	-	-	-	2	15	6	27·3
Newry, -	14,782	28	16	4	2	-	-	-	-	1	-	-	1	14·1
Galway, -	14,621	31	24	4	8	-	-	-	-	-	-	-	2	21·4

### Remarks.

Both in England and in Ireland an increased mortality in the urban districts is observable. In twenty-eight of the largest English towns the death-rate per 1,000 of the population annually was 22·2, compared with 20·0 in the four weeks ending Saturday, August 12, 1882. In the sixteen principal town districts of Ireland it was 22·6, compared with 20·3 in the period just mentioned. The death-rate was very high in Derry and Waterford, high in Dublin and Belfast, moderate in Galway, and low in Cork, Limerick, and Newry. It was 19·2 per 1,000 in London, 21·7 in Glasgow, and only 16·9 in Edinburgh. As regards Dublin, if we deduct the deaths (8) of persons admitted into public institutions from localities outside the registration district, the death-rate becomes 24·3 per 1,000, and that of the portion of the district comprised within the municipal boundary is 26·5.

The deaths registered in the Dublin metropolitan area were 659, against 595 in the preceding four weeks. They included 163 deaths of children under 1 year of age—a number which is again a considerable increase on the numbers registered in the two previous four-week periods—

namely, 124 and 84 respectively. The deaths of persons aged 60 years and upwards fell from 141 to 130. Zymotic diseases proved fatal in 111 instances, against 72 in the preceding four weeks, and a ten years' average of 149·1 deaths. Measles killed only three individuals—all children between 1 and 5 years of age. The greatest increase under the heading "Zymotic Diseases" was in the fatal cases of diarrhœa, which were 62, against 27 in the previous four weeks. Of the 62 deaths, 39 were of children under one year. Two deaths from simple cholera (cholérine, or cholera nostras) were registered, and there were many cases of this complaint. Of the 19 deaths referred to fever, 9 were ascribed to typhus, 9 to typhoid, and 1 to "continued fever" of ill-defined type.

Not a single death from smallpox was registered in any of the towns; the epidemic of this disease in Belfast has apparently died out. In that town, however, measles, scarlet fever, and diarrhœal diseases were rife and fatal. In the eight chief towns this last-named group of summer maladies caused 127 deaths, compared with 72, 50, and 29 respectively in the three preceding periods.

Phthisis (pulmonary consumption) caused 73 deaths in Dublin, and 58 in Belfast.

Diseases of the organs of respiration were fatal in 79 instances in Dublin, the ten years' average of the corresponding period being 72·5 deaths. Bronchitis contributed 47 deaths, and pneumonia 14, the respective averages being 45·8 and 13·3.

On Saturday, September 9, the number of patients suffering under the chief epidemic diseases in the principal hospitals of Dublin were—smallpox, 0; measles, 2; scarlet fever, 11; typhus, 33; typhoid, 17; pneumonia, 7.

The mean temperature of the four weeks was 56·4° in Dublin, 58·3° at Greenwich, and 56·2° in Edinburgh. These are rather low values for the time of year.

#### METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of August, 1882.*

Mean Height of Barometer,	-	-	-	29·914 inches.
Maximal Height of Barometer (on 4th, at 9 p.m.),	-	-	-	30·399 „
Minimal Height of Barometer (on 22nd, at 11 p.m.),	-	-	-	29·120 „
Mean Dry-bulb Temperature,	-	-	-	58·2°.
Mean Wet-bulb Temperature,	-	-	-	55·6°.
Mean Dew-point Temperature,	-	-	-	58·2°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·407 inch.
Mean Humidity,	-	-	-	83·8 per cent.

Highest Temperature in Shade (on 1st),	-	-	71·4°.
Lowest Temperature in Shade (on 23rd),	-	-	47·9°.
Lowest Temperature on Grass (Radiation) (on 30th),			44·0°.
Mean Amount of Cloud,	-	-	61·4 per cent.
Rainfall (on 11 days),	-	-	1·872 inches.
Greatest Daily Rainfall (on 31st),	-	-	·568 inch.
General Directions of Wind,	-	-	N.W., W.

*Remarks.*

Not an unfavourable month, although chiefly cool and breezy. The mean temperature (58·2°) was 0·6° below the average of the preceding seventeen years (58·8°). The rainfall (1·872 inches) and rainy days (11) were also below the average (3·034 inches, distributed over 16·4 days). During the first twelve days the weather was quite dry, and generally beautifully fine, with hot sunshine by day, and heavy dews and wet fogs by night. On the 13th a thunderstorm depression caused the weather to break up, and the remainder of the month was cool, windy, cloudy, and often showery.

The fine weather of the earlier part was brought about by the advance of an area of high atmospherical pressure to our south-western coasts from the Atlantic. As depressions of considerable depth and size were at the same time passing across Scandinavia, gradients for N.W. winds were steep, and consequently fresh to strong north-westerly winds prevailed in the North-west of Europe. From the 6th to the 12th inclusive the British Islands were under the beneficent influence of a summer anticyclone. On the 8th and 9th atmospherical pressure was so uniformly distributed that the extreme difference in the height of the barometer at mean sea-level all over the United Kingdom did not exceed one-tenth of an inch. Consequently, calms prevailed inland, while periodical land breezes by night and sea breezes by day were observed at the coast stations, particularly in Ireland. In the S.E. of England a light N.E. current prevented any extreme rise of temperature between the 7th and the 12th—on which latter day, however, the thermometer rose to 82° in London—but in central Ireland and in Scotland excessive heat was experienced on the 9th and 10th, the thermometer rising to 80° at Parsonstown, and Markree Castle, Co. Sligo; 81° at Brookeborough, Co. Fermanagh, and Aberdeen; 82° at Leith; 83° at Waterford; and 84° at Londonderry. On the 10th the highest temperature in London was only 63°. In Dublin the heat of the sun was tempered by daily refreshing sea breezes. On the mornings of the 8th and 9th dense vapour fogs prevailed, but they were soon dispelled as the sun gained power. On the 11th and 12th the anticyclone moved slowly eastwards, and the barometer fell quickly, with a freshening southerly wind, and less settled appearance. Lightning was seen to the southward after 10 p.m.

of the 12th, and a thunderstorm of considerable violence reached the neighbourhood of Dublin about 3 a.m. of the 13th, lasting for three hours. Nearly three times as much rain fell in the Phoenix-park ( $\cdot 295$  inch) during the storm as in the city ( $\cdot 108$  inch), or at Bray ( $\cdot 119$  inch). At 4 30 p.m. of the same day another thunderstorm of less severity passed north-eastwards near Dublin. These electrical disturbances extended to most parts of the United Kingdom in a direction from S.S.W. to N.N.E. At 12 30 p.m. of the 14th a partial downpour of rain, yielding  $\cdot 200$  inch of water, occurred in Dublin.

After the 20th a very decided lowering of temperature took place, connected with a prevalence of strong N.W. winds and much cloud, with showery weather. On the 22nd a deep atmospherical depression travelled across Ireland from W.S.W. to E.N.E., causing heavy rain, and subsequently N.W. gales and heavy showers. At 11 p.m. the barometer was down to  $29\cdot 120$  inches in Dublin. On the 25th another depression passed eastwards, with its centre S. of this city, where, consequently, the wind backed from S.E. through E., N.E., or N., to N.W., with cool, bright weather. On the 31st a serious disturbance came in from the Atlantic, accompanied with a downpour of rain and strong southerly winds. The resulting rainfall was in Dublin  $\cdot 723$  inch, and at Bray, Co. Wicklow,  $\cdot 792$  inch.

A solar halo was seen on the 18th. Fogs were noted on the 8th, 9th, and 13th. There was a particularly heavy dew on the evening of the 7th. Lightning was seen frequently during many hours from 10 p.m. of the 12th. There were two thunderstorms on the 13th.

At Bray, Co. Wicklow, the rainfall of the month amounted to  $1\cdot 970$  inches, distributed over 11 days.

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#### CARBONATE OF AMMONIA AS A STIMULANT.

IN an experimental essay on this subject Dr. E. P. Brewer, in the July number of the *American Journal of the Medical Sciences*, takes the position that the stimulating properties possessed by this drug are owing to evolution of free ammonia while in process of combining with the hydrochloric acid of the gastric juice. In support of this view, he states that observations drawn from forty-nine experiments prove—1. Carbonate of ammonia, administered by the rectum, cellular tissue, and intestine, is almost completely robbed of its stimulating properties. 2. By the stomach it acts with great power when we permit the full play of the acid gastric juice; the converse being apparent when we neutralise the acid of the gastric juice. 3. That the ultimate results of the chemical union is a product totally different in power and latitude of action from carbonate of ammonia. Analysis of blood made soon after the exhibition of a dose of carbonate of ammonia show an excess of free ammonia.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### THE ABSORPTION OF IODOFORM.

IN view of the great discrepancies as to the fatal dose of iodoform, Zeller undertook some experiments to determine how much and how rapidly iodoform was absorbed, and gave his results at the meeting of the Congress of German Surgeons at Berlin on June 1, 1882. Various opinions are held as to the changes which iodoform undergoes when absorbed, Moleschott believing the effects to be due to nascent iodine, Binz to the union of iodine with a metal, and others to a compound of iodine and albumen. According to Zeller, who estimated the iodine excreted through the urine, iodoform is only slowly and imperfectly absorbed from the intestine, while its excretion may last more than three weeks. It is rapidly absorbed from the abdominal cavity, under which conditions the bile-colouring matters are also found in the urine, accompanied by severe toxic symptoms which are equally severe when the iodoform is applied to the surface of wounds; as iodoform accumulates in the blood it produces a cumulative action, so its results cannot be foretold. Iodoform is no more soluble in serum than in water.—*Deutsche med. Wochen.*, June 17, 1882, and *N. Y. Med. News*, August 5, 1882.

### THE TREATMENT OF EPILEPSY.

KÜNZE (*Neurolog. Centralb.*, January, 1882) treated thirty-five patients suffering from epilepsy, with completely successful results in nine of them, by means of curare. The published cases show that complete recovery occurred in very severe cases of epilepsy, even when the disease had existed for years, and the intellectual faculties had become affected. Acting upon these results, Prof. Edlesfen has investigated anew the effects of treatment by curare in certain grave cases of epilepsy, since the effects of treatment whether by the bromides or by atropia are not so entirely satisfactory as to render all other methods superfluous. He employed the formula recommended by Künze, filtering the solution before injecting it—Curare, 0·5 gramme; aq. dest. 5·0 grammes; acid. hydrochlor. gtt. i., digere per xxiv. horas, dein filtra. Of this solution, one-third is to be injected every five days; as a rule it causes neither much pain nor any noticeable reflex symptoms; in no case did it cause any toxic phenomena; still it is necessary to ascertain the trustworthiness of the preparation of curare before employing it. Two cases of hystero-

epilepsy were not benefited by this treatment, whilst of thirteen cases of true epilepsy, the majority characterised as severe cases of old standing, six were not permanently improved, whilst three were completely, and, up to the present, permanently cured. Three other cases, although not cured, were distinctly improved, the attacks being interrupted for several months. One case is still under observation, and promises to be successful. Prof. Künze recommends that the treatment be given up if there be no sign of improvement after the fourth or fifth injection. (*Centralb. f. klin. Med.*, 1881; *Med.-Chir. Rundschau*, October, 1881.) Dr. G. Ferraud sums up the recent results of treatment with bromide of potassium at the Salpêtrière (Paris). The cases of eighty-nine female patients are analysed as follows: 13 per cent. very decidedly benefited; 15 benefited; 18 slightly benefited; 12 not benefited. Minimum daily doses of 5·6 grammes for women and 6·8 for men are recommended. Legrand du Salle continues to give the salt on six days of the week for the first three months after the fits have ceased for a year, and afterwards on three successive days in each week. Arsenic is found useful in acne produced by the bromide, and to avoid serious weakening of the memory coffee is ordered for all patients whose daily dose is more than 7 grammes.—*Cincinnati Lancet and Clinic*, July 15, 1882, and *N. Y. Med News*, August 5, 1882. [In the July number of *Brain*, Dr. William Alexander, of Liverpool, reports several cases in which the treatment of epilepsy by tying the vertebral arteries has been practised with most satisfactory results.—ED. PERISCOPE.]

#### CONTRIBUTIONS TO THE SURGERY OF THE LIVER.

DR. J. RANSOHOFF, of Ohio, reported two interesting cases at the late annual meeting of the American Medical Association. The first was a case of cholelithectomy, in which he had opened the gall-bladder and removed calculi. The walls of the gall-bladder were stitched to the abdominal wall, then opened, and the obstructing stones removed. The chief point on which he dwelt was the positive diagnosis of stone by a fine aspirating needle touching the stone before operation, and claimed that this was the first case in which that had been done, as far as he knew. The second was a case of hepatic abscess, where repeated aspiration having failed to cure, an opening was made through the abdominal wall with the thermo-cautery, the wall of the abscess stitched to the abdominal wall, and an opening, through one-half inch of liver tissue, made into the cavity of the abscess; without the loss of one drop of blood. The use of warm water, for six or eight hours a day, to cleanse the cavity, without any carbolic acid, was continued, and the inspection of the interior of the cavity, by the use of the laryngoscopic mirror, revealed large sloughs, which were removed by forceps. The patient finally made a good recovery.—*N. Y. Med. News*, July 1, 1882.



# THE DUBLIN JOURNAL

OF

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Authors of Communications are requested to write the prescriptions in their paper in full, and in English.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

### ORIGI

**ART. XII.—Further Contributions to Operative and Preservative Surgery.** By HENRY GRAY CROLY, F.R.C.S., Senior Surgeon, and Lecturer on Clinical Surgery, City of Dublin Hospital; Consulting Surgeon to the Monkstown Hospital, and Dental Hospital, Dublin; Member of Council, Royal College of Surgeons, and Council of Surgical Society of Ireland.

**I. WOUND, SEVERING THE TENDONS ON FRONT OF THE WRIST;  
PERFECT RECOVERY OF USE OF FINGERS AND HAND.**

**II. WOUND OF BRACHIAL ARTERY AT BEND OF THE ELBOW;  
FALSE ANEURISM; LIGATURE OF ARTERY; RECOVERY.**

**III. PRIMARY AMPUTATION OF LARGE PORTION OF RIGHT HAND;  
THUMB AND PART OF FOREFINGER SAVED.**

**IV. PERINEAL SECTION FOR ORGANIC STRICTURE OF URETHRA;  
PERFECT RECOVERY.**

**CASE I.—Remarkable case of Wound of the Wrist, completely severing the Flexor Tendons of the Right Hand; Bloodless Operation by aid of Esmarch's bandage; Tendons united by carbolised gut sutures under antiseptic spray; Recovery, with perfect use of the hand.**—Sarah J. Poots, aged thirteen years, daughter of the gardener of John Maunsell, Esq., J.P., Edenmore, Raheny, while playing in the gate-lodge, in March last, fell with great force against a thick pane of plate-glass of the door, driving her hand, with much violence, through the glass, and inflicting a very severe wound on the front of the wrist. She was visited in the evening by Dr. Gibson, who ascertained that the flexor tendons of the hand were

divided. Having arrested the hæmorrhage, which was profuse, and dressed the wound temporarily, he advised her removal to the City of Dublin Hospital. She was accordingly admitted on the 17th of March, under my care. On examination I found an extensive wound of the wrist, *the fingers straight, without any power of flexion.* The patient having been etherised, the arm was rendered bloodless by the application of Esmarch's bandage, applied according to the plan which I described in the July number of this Journal. I then made an incision in the long axis of the forearm, four inches in length, under the antiseptic spray, down to the divided tendons, which were jagged and curled towards the wrist, an interval of about an inch separating the upper from the lower ends of the tendons. I removed the jagged ends with scissors, and then, the hand being flexed, each tendon was separately joined to its fellow by means of carbolised gut; the wound was closed and dressed in strict accordance with Listerism. A suitable splint was applied to the hand, fixed in the flexed position, so as to keep the edges of the tendons in close approximation. There was very little febrile disturbance, or increase of temperature resulting. The girl recovered the use of each finger so perfectly that she was discharged from hospital on the 5th of April, her hand being as useful as before the accident. She addressed the following letter to me, expressive of her gratitude:—

“EDENMORE, RAHENY, *June 24th*, 1882.

“SURGEON CROLY,

“DEAR SIR,—I write this note with the hand that was perfectly useless after the severe accident which occurred on the 15th of March last in running my hand and arm through a pane of plate-glass in the door of the lodge. All the sinews on the front of my arm, near the wrist, were cut across, and I could not move one of my fingers. I have now, thanks for your great care to me and the skilful operation, recovered the perfect use of my hand and fingers quite as good as the day before the serious accident happened. I write as well as ever, and sew.

“I remain,

“Your very grateful patient,

“SARAH J. POOTS.”

I need not here dwell on the great advantages of the antiseptic dressing, feeling sure that the words of my friend, Mr. Jessop, Surgeon to the Leeds Infirmary, in his address at Leeds in July last, fully express the views of most practical surgeons of the present day:—“Suffice to say that it” (antiseptic surgery) “has gradually become the established practice in Leeds, and that it has now almost supplanted all the other methods known to our predecessors. I feel, indeed, that there is no longer need to defend Listerism.

The boldness of the man who in this day would dare to deny, or even doubt, its power for good, partakes more of rashness than prudence."

This case, which I detail, is of deep interest, and I believe could not have been treated successfully without the aid of Esmarch's bandage and antiseptic surgery. The bloodless condition of the forearm, effected by the bandage (resembling the appearance so long familiar to my view in the Anatomy Hall of the College of Surgeons), enabled me, not only to join each tendon, but to make sure that each tendon was united to its fellow, thereby preventing "cross action," and thus restoring to its usefulness a portion of the frame of such beauty and design as the human hand, wonderfully and exquisitely constructed. Such a result is equally gratifying to patient and surgeon.

**CASE II.**—*Case of Wound of the Left Brachial Artery ; Development of False Aneurism at the bend of the Elbow (Suicidal) ; Failure of Pressure ; Ligature of Artery, above and below the Wound ; Recovery.*—An officer of the Indian Army, aged forty-six, who was suffering from the combined effects of climate, intemperance, and domestic troubles, in a fit of extreme depression, attempted suicide by cutting his throat across the cricoid cartilage (which he partially severed), stabbing his left side at the fifth intercostal space, and lastly, by wounding his left brachial artery at the elbow, an inch and a-half above its bifurcation. He was residing at the time in Wicklow, and was promptly visited by my brother, Dr. Richard Croly, L.R.C.S.I., of Tinahely. Before his arrival the hæmorrhage from the throat and side was considerable, although no large vessel was severed, and the loss of blood from the wounded brachial was profuse.

By carefully applied graduated compresses, and the gauntlet bandage of Genga, the arterial hæmorrhage from the arm was checked. The patient was kept under close surveillance, and suitable restoratives and nourishment were judiciously administered. On the following day there was a recurrence of bleeding from the wounded artery, which was again temporarily checked. The gentleman was then cautiously conveyed to Dublin, and placed under my care. He presented all the usual anæmic appearances of a person suffering from severe hæmorrhage and consequent nervous exhaustion. As there was then no further bleeding I did not disturb the bandages, but had the patient constantly watched by a nurse and medical student. However, on the next day further violent hæmorrhage recurred, which was arrested by digital pressure on the artery.

I then determined to ligature the artery at the site of the injury, and proceeded as follows:—The patient was etherised, and his arm rendered bloodless by Esmarch's bandage. I dissected down on the vessel, under the antiseptic spray, and found a large quantity of coagulated blood occupying the antecubital fossa, presenting a placenta-like mass. The



coagula having been removed, I succeeded in securing the artery above and below the wound with carbolised gut ligatures; I then removed the bandage, and dressed the wound in accordance with Listerism. There was no further recurrence of bleeding, and the patient had a slow but sure recovery.

In the present day, since venesection has gone out of fashion, wounds of the brachial artery at the elbow rarely occur. Formerly amateur bleeders not infrequently opened the artery as well as the vein, and occasionally the blunder occurred by the hand of even qualified practitioners. My father's master, Dr. Woodroffe, the very eminent Cork surgeon, used to take much pride in relating in his lectures the case of Lord Muskerry, whose brachial artery was opened in venesection by an army surgeon. The symptoms resulting from the injury were so urgent that amputation of the limb was about to be performed, but owing to the boldness and skill of Dr. Woodroffe he succeeded in successfully ligaturing the artery. On his recovery Lord Muskerry wrote to thank Dr. Woodroffe, in the following words:—"I write this with a hand condemned to amputation by *seven* surgeons, but saved by your skilful operation." So much for the surgery of sixty years ago!

CASE III.—*Primary Amputation of portion of the Right Hand, for Injuries caused by Machinery Accident, remarkably illustrating the value and importance of Conservative Surgery.*<sup>a</sup>—Thomas Murray, aged twenty-six, a labourer in the employment of the Dublin Tramway Company, was admitted into the City of Dublin Hospital, July 8, 1882. While engaged in "feeding" a hay-cutting machine, which was driven by steam power, his attention having been diverted from his work, his arm was grasped by the rollers which force the hay up to the revolving knives. Inch by inch his fingers were cut off, and, before the machine was stopped, the entire of his third, fourth, and fifth metacarpal bones were severed, or crushed. The rollers, which are provided with knobs, lacerated the anterior and posterior surface of the forearm to within four inches of his elbow, without, however, cutting much deeper than the integuments. On admission the hæmorrhage was, and had been, very profuse. The house surgeon (Dr. Pratt) tied all bleeding vessels, a very difficult procedure, owing to the extremely lacerated condition of the parts. Mr. Croly, the accident surgeon for the week, who was immediately sent for, promptly attended, and at once proceeded to operate. The arm was "Esmarched," and although an attempt to save any portion of the hand seemed almost hopeless, owing to the comminuted state of the metacarpal bones, Mr. Croly, by a lengthened and

<sup>a</sup> Reported by Mr. A. H. Middleton, Resident Surgical Pupil, City of Dublin Hospital.

careful dissection, got a sufficient covering for the stump. Being desirous of saving as much as possible of the limb; he formed flaps from the front and back of the hand, removed the fourth and fifth metacarpal bones, the head of the third, and amputated the index finger at the first inter-phalangeal articulation.

During the operation the patient was so much exhausted, from pain and loss of blood, that immediately on the ether being administered he fainted. The battery was used, strict antiseptic precaution was taken, and a splint applied.

July 9, the day after the operation, the patient was ordered the following pills :—

R.—Pulv. Jacobi veri,  
 Extr. aloës āā gr. 2,  
 — opii gr.  $\frac{1}{2}$ ,  
 ft. pilula, ter die sumenda.

July 12.—As there was much tension, the house surgeon cut several of the stitches, which had been applied, evacuating a small quantity of pus.

July 13.—Large bullæ on the arm, considerable swelling, and inflammation of the forearm, great pain, extending up to the shoulder. Free incisions were made, utilising the accidental wounds. Large quantities of pus were discharged. Another free incision was made on the olecranon.

July 16.—Ordered 2 grains of quinine three times a day.

July 17.—Hand and arm placed in warm bath with carbolic acid. Ordered 2 ounces of wine.

July 18.—Bath repeated for several hours daily; more incisions; wine increased to 4 oz.

The treatment was thus continued for some time, and on the 28th of August, seven weeks after the accident, the wounds being healed, the patient left the hospital, having the use of his thumb and a portion of the index finger, by which he can hold a pen and write.

*Observations.*—The foregoing case I believe to be of much practical interest and instruction, as illustrating the great value of conservative and antiseptic surgery. The extreme importance of saving the thumb, and even a portion of the fore-finger, induced me to make an effort to do so. The operation was necessarily tedious, and being performed at night was the more difficult.

The anastomosis of the palmar vessels caused profuse hæmorrhage when the elastic bandage was removed, which obliged me to apply numerous ligatures. The bruised condition of the forearm led me to expect what followed—diffuse inflammation and tension of the limb. Timely free incisions, utilising the original wounds, afforded immediate and much relief. The antitetanic pills of

"Peile" (without calomel, to avoid salivation) were continued for several days. The antiseptic dressings allayed inflammatory action and prevented fœtor, largely contributing to the prevention of septicæmia. The use of the hot-water bath, with a suitable proportion of carbolic acid, was very soothing, and gave much relief in intervals between the dressings, adding considerably to the patient's comfort.

**CASE IV.**—*Case of Organic Stricture of Urethra, attended with very urgent symptoms, successfully treated by Perineal Section.*\*—H. J., aged forty-nine, an engine-driver on the Great Northern Railway, was admitted to the Cave Ward of the City of Dublin Hospital, June 13, 1882, under the care of Mr. Croly. Patient stated that he had been always healthy, and of temperate habits as regards drink. About fifteen years ago he had a severe attack of gonorrhœa, which got well in time, leaving a tight stricture of the membranous portion of the urethra. This became gradually worse, subjecting him to frequent attacks of retention of urine, and ultimately the smallest catheter could not, without much difficulty, be introduced into the bladder. The discharge of urine consisted of a few drops at a time, and never in a continuous dribble. It was remarkable that the attack occurred in regularly returning exacerbations, during which the patient's sufferings were dreadful. In the remissions he was able to pass water with some relief. On his admission to hospital a very small instrument, after considerable manœuvring, having been passed, Mr. Croly proceeded to operate, on the 20th of June, in the following manner:—The bowels being well cleared out, the patient was etherised by the house surgeon and placed in the lithotomy position; a "Syme's staff" was introduced, and, with an ordinary lithotomy knife, the stricture was divided by perineal section, from behind forwards. The staff was then withdrawn, and a No. 6 silver catheter was introduced, not without some difficulty, and retained in the bladder, the urine dribbling away through the simple contrivance of a drainage-tube, fastened to the end of the catheter, and led into a vessel under the bed. Very small quantities of urine passed through the wound, which gradually granulated.

June 26.—Ordered the following prescriptions:—

R.—Pil. colocynth et hyoscyami,

— rhei c.,

— hydrarg, ãã gr. 3,

ft. pil. ij. statim sumendæ.

R.—Quiniæ sulph. gr. 12,

Extr. opii aq. gr. 3,

ft. pil. xij. capiat unam tertiis horis.

\* Reported by Mr. A. H. Middleton, Resident Surgical Pupil.

The bladder was frequently washed out with tepid water.

July 4.—The instrument was finally withdrawn, a slight discharge resulting from its long retention. The wound healed perfectly, and was watertight.

July 17.—The patient left the hospital this day, able to pass water freely, in a full stream, without either difficulty or pain.

October 12.—He has returned to his employment on the engine, as before, a No. 12 silver catheter having been easily passed.

*Observations.*—The foregoing case, so faithfully reported by Mr. Middleton, the resident pupil, presents features of much practical interest, proving the value and success of Syme's operation in suitable cases. For nearly fifteen years this man suffered from a tight organic stricture, which rendered his life miserable, and brought him frequently into imminent danger. The sudden attacks of retention, and the impossibility of an instrument being passed into the bladder, even by the most practised hand, almost drove him in despair to give up his employment—a very responsible post on the railway. His features showed the state of his mental and bodily suffering. He was so frequently and *suddenly* attacked with retention of urine, on his journeys on the engine, that at last he became unfit for his duties. On one occasion his sufferings were so urgent that he came to my house at night; and, as I found it almost impossible to pass any instrument, I administered chloroform, and, after long and patient efforts I at last succeeded in relieving him. He is now in the enjoyment of good health, and is able to travel long distances on the railway. A No. 12 catheter can be passed, and there is not the slightest tendency to contraction of the urethra. He was much encouraged in submitting to operation by his intercourse with a man in the same ward, on whom I had successfully operated for a similar disease. This patient's case was recorded in the number of this Journal for July, 1882.

I believe that operative resources in cases of stricture are not adopted as often as they should be, nor sufficiently early, as the following case will exemplify:—I was sent for in consultation at midnight in the suburbs to see a gentleman who had retention of urine for more than two days, caused by a permanent stricture of fourteen years' duration. I found him in great suffering, and symptoms of uræmic poisoning and partial unconsciousness becoming developed. As no instrument could be passed by two other surgeons or myself, I at once tapped the bladder through the

rectum. The uræmic symptoms disappeared almost simultaneously with the emptying of the bladder. Had perineal section been performed in this case at a proper time years of suffering would have been averted; and I am persuaded that much misery would be saved by timely operation, anticipating and preventing frequent attacks of retention of urine, perineal abscess and fistula, bladder and kidney complications (including uræmic poisoning)—in a word, thereby restoring health, with confidence and certainty, in cases otherwise hopeless.

**ART. XIII.—*Notes on Abdominal Surgery.*** By WILLIAM STOKES, Professor of Operative and Theoretical Surgery, Royal College of Surgeons; President of the Pathological Society of Ireland; Senior Surgeon to the Richmond Surgical Hospital; Fellow of the Royal Medical and Chirurgical Society of London; Member of the Clinical Society of London, &c., &c.

I. OVARIOTOMY.  
 II. OVARIOTOMY.  
 III. OVARIOTOMY.  
 IV. OVARIOTOMY.  
 V. OVARIOTOMY.  
 VI. OVARIOTOMY.  
 VII. OVARIOTOMY.

VIII. EXCISION OF THE UTERUS  
 AND BOTH OVARIES.  
 IX. HERNIOTOMY.  
 X. HERNIOTOMY.  
 XI. HERNIOTOMY.  
 XII. HERNIOTOMY.  
 XIII. ABDOMINAL SECTION.

HAVING regard to the thoughtless remarks that have at times been made in reference to the alleged desirability, or, in truth, necessity, of leaving operations, such as the majority of those above indicated, exclusively in the hands of practitioners who limit themselves mainly to the performance of such, it is for many reasons desirable that surgeons, who do not recognise the necessity for a limitation of the kind alluded to, and see their way to working in a wider area of practice, should record their experience of such cases.

**CASE I.—*Ovariectomy.***—A. M., a married woman, aged sixty-two, who never had children, was admitted into the Richmond Surgical Hospital under my care on June 10th, 1874, suffering from a large multilocular ovarian cyst. This had never been tapped. Eighteen months previously she noticed the growth for the first time. Of late it had increased very rapidly. At the umbilicus the circumferential measurement was forty-two inches, and from sternum to pubes twenty-two and a half inches. The catamenia

had for some time been scanty and irregular. Notwithstanding the existence of a considerable amount of ascitic fluid, the diagnosis of a multilocular ovarian cyst could be made without much difficulty, and this was verified at the time of the operation. The patient was cheerful, her appetite good, her pulse steady and regular, and although she suffered much from the size and weight of the tumour she was otherwise in fairly good health. On June 27th I performed ovariectomy and removed a large multilocular cyst. There was much difference in the size of the cysts, some being extremely small, the size of small grapes, while others were as large as and larger than a cocoa-nut. The contents, too, varied much in appearance and consistence. There were some adhesions at the upper and back part of the tumour which, however, were easily broken down. In this case the pedicle, a fairly long one, was secured by Spencer Wells' clamp. The wound having been closed and dressed, *but not antiseptically, in the Listerian acceptation of the term*, the patient was removed to bed. The patient rallied well after the operation, but next day there was a marked increase in the rapidity and feebleness of the pulse, the temperature also low, and these unfavourable symptoms did not subside but continued to increase. On the evening of the second day the patient sank, apparently from exhaustion, for there were no *post mortem* evidences found to account for the unfavourable result.

CASE II.—*Ovariectomy*.—J. B., unmarried, aged twenty-five, was admitted into the Richmond Surgical Hospital, under my care, in May, 1875, suffering from an ovarian tumour which had never previously been tapped. The patient was anæmic in appearance, and her catamenia had always been more or less irregular. The tumour she suffered from, she first observed twelve months previous to her admission into hospital. The tumour was not so large as in the preceding case, measuring only forty and a half inches circumferentially at the umbilicus. On May 12th I exposed the cyst in the usual way, and removed the tumour. There were no adhesions, and as far as the operation was concerned everything went on as smoothly and satisfactorily as any one could possibly desire. The pedicle, a long and thin one, was secured by a small clamp. No vessels had to be secured, no ascitic fluid was in the peritoneal cavity, nor any escape of ovarian cyst fluid into it. Everything went on in the most favourable way for the first twenty-three hours, and when I saw her then, the pulse and temperature were both normal,

the expression of her face was cheerful, placid, and free from all anxiety; and, in truth, as she lay in the bed, no one, from her appearance, would ever have supposed that she had so recently undergone a formidable operative procedure. She expressed herself as being quite free from all pain or uneasiness, and was most hopeful of her ultimate recovery. She had had several hours sleep during the night, the only thing administered to induce it being a quarter grain morphia suppository. An hour after I saw the patient in this apparently satisfactory condition, I was hastily summoned to see her; and was not a little shocked and distressed to see the sudden, alarming, and unexpected change that had occurred. The rate of the pulse, from having been 84, equable and steady, had risen to 120, and was thready and weak. The face became of an ashy white colour, the lips livid, the voice weak, and the face and hands bathed in a cold perspiration. There was some sickness of stomach, but the tongue was clean and moist. The patient now expressed herself as being convinced that her end was approaching, which event took place just an hour after the first alarming symptoms of collapse set in. I made a careful autopsy, but failed to discover any cause for the patient suddenly sinking in the manner I have mentioned. There was no distension of the abdomen, no evidence of hæmorrhage, no fibrinous clots in the heart, no peritonitis—in fact the result of the *post mortem* was essentially negative.

CASE III.—*Ovariectomy*.—B. O'G., aged thirty, unmarried, was admitted into the Richmond Hospital, under my care, on June 7th, 1877, having been recommended to me by Dr. E. C. MacDowel, of Sligo. The history of her case up to the time of her admission was briefly as follows:—Previously to the spring of 1876 she had always enjoyed excellent health, but towards the end of February she first noticed her strength beginning to fail a little. She became gradually weak and languid, and found herself unequal to any prolonged exertion, especially that of walking any long distance. She soon after this noticed that an enlargement could be felt in the lower part of the abdomen. She stated that at first the enlargement was chiefly confined to the right side. For a period of twelve months there was very little apparent increase in the size of the tumour, and her general health during this time did not deteriorate much, except that the languor and the gastric irritability perhaps slightly increased. The catamenia also



became scanty, though still continuing perfectly regular in their recurrence. The tumour now commenced to grow more rapidly, her respiration became difficult, and she was greatly annoyed by palpitation on making any sudden exertion. Her stomach began to get irritable, and sometimes rejected food. The patient then went to the Sligo Infirmary, where she was admitted under the care of Dr. MacDowel, and after a sojourn of six weeks came up to town, on his recommendation, to place herself under my care. The circumferential measurement of the abdomen at the umbilicus was  $41\frac{1}{2}$  inches. On June 27th I performed ovariectomy, the difficulties I experienced being greater than on any previous similar occasion. These were owing to the large number of firm and extensive adhesions, which existed for the most part at the upper and posterior part of the tumour. The difficulties were, however, satisfactorily overcome, and the tumour removed. There was a good deal of oozing hæmorrhage, but only three small vessels had to be ligatured. Great care was taken not to leave any blood-clots or red serum in the peritoneal cavity, which was accomplished by a free and diligent use of carbolised sponges. The pedicle, fortunately a long one, was clamped, and the edges of the wound were brought together by numerous points of interrupted carbolised catgut suture. Mr. J. Knott, the distinguished Senior Demonstrator of Anatomy in the School of the Royal College of Surgeons, kindly furnished me with notes of this important case; and the successful result obtained is, I feel assured, to a great extent due to the unceasing care and attention he bestowed on the patient during her convalescence. The following notes taken by him give an accurate account of the daily progress of the case:—

Immediately after the operation the patient was ordered a milk diet, with iced brandy and water. A draught containing  $\mathfrak{m}$  25 of liq. morph. hydrochlor. was administered, but as it made her stomach sick it was not repeated. She lay extremely quiet, never making the least movement, except that of drawing up the knees a little now and again with a slight degree of restlessness. This, however, she soon ceased to do. No bad symptom appeared during the course of the day. She was again visited by Mr. Stokes at 4 p.m. In the evening the pulse was 96; temperature,  $98^{\circ}$ . A suppository of morphia (gr.  $\frac{1}{4}$ —B. P.) was administered at night (10 p.m.) by the nurse. She did not, however, sleep, although she did not complain of pain. Mr. Stokes again saw her at 10 p.m. (catheter used).

Second day (June 28).—Morning—Pulse, 92; temperature, 98.2°. Milk, ice, and brandy continued. Ordered a syphon of soda-water, to drink with equal parts of milk and ice or brandy added, if the patient desired it. Mr. Stokes also brought her some grapes, which she seemed very glad to get. Some time after eating them, however, she began to complain of griping pains in the bowels, which were attributed to their use; no other unpleasant symptom, however, followed. Again visited at 10 p.m. Pulse, 96; temperature, 98.8°. Still quiet and placid. Morphia suppository at 10 30 p.m.

Third day (June 29).—Quiet as usual. Pulse, 96; temperature, 99°. To continue the milk, brandy, and soda-water. The griping pains also gave some annoyance during the course of this day, but they wore off towards evening, and did not return. 1 30 p.m.—Pulse, 92; temperature, 99.4°. Slight cough, which gave some trouble, as the patient was obliged to suppress it as much as possible, to prevent the wound being hurt. There were some mucous râles also in the large tubes. Was again visited at 5 p.m. 10 p.m.—Pulse, 92; temperature, 99.4°. Seen again by Mr. Stokes. Morphia suppository at 10 30.

Fourth day (June 30).—6 a.m.—Pulse, 92; temperature, 99°. Case progressing most favourably, except that the cough continued to give some trouble. 10 a.m.—Visited by Mr. Stokes. Pulse, 104; temperature, 100.2°. 1 p.m.—Pulse, 116; temperature, 101.6°. Patient hot and flushed. This alarmed the resident pupil, who suggested that the supply of brandy should be diminished for the remainder of the day, while that of the ice and soda-water was to be increased. The result was that at Mr. Stokes' next visit, at 5 p.m., the pulse was 96; temperature, 99.8°. She now expressed a wish to be raised a little higher in the bed, as the breathing was somewhat impeded by the collection of mucus, which she was unable to get up. The pillows which supported her shoulders were also becoming hard and uncomfortable. An air-cushion was accordingly procured and placed beneath the shoulders. This was very gratifying to the patient, who expressed great relief and looked much happier, and expressed herself more hopefully than she had done since the operation. 10 p.m.—Pulse, 92; temperature, 99.8°. Feeling very comfortable. Suppositories discontinued. Midnight.—Was sleeping lightly; awoke on the entrance of the pupil in charge. Was again visited at 2 30 a.m., and found asleep.

Fifth day (July 1).—10 a.m.—Visited by Mr. Stokes. Dressings changed for the first time; wound extremely healthy-looking; upper three-fourths of the incision *united by the first intention*; lower part (in the neighbourhood of the clamp), secreting healthy pus, which is, however, very small in quantity. Dressings reapplied, as before. Pulse, 92; temperature, 99.8°. Ordered one egg, beaten up with brandy—half immediately and half after the lapse of some hours. Looks more

comfortable and hopeful. 3 15 p.m.—Pulse, 80; temperature, 98·6°. Visited at 4 p.m. by Mr. Stokes. 9 15 p.m.—Pulse, 80; temperature, 98·6°.

Sixth day (July 2).—10 a.m.—Pulse, 80; temperature, 98·4°. Progressing most favourably. Ordered some chicken-jelly. Dressings changed. Clamp still firmly attached. 4 p.m.—Visited again by Mr. Stokes. Had taken a cupful of chicken-jelly and one egg, in the form of egg-flip; did not care for any more of either. 10 p.m.—Pulse, 84; temperature, 99°.

Seventh day (July 3).—10 a.m.—Pulse, 84; temperature, 98·2°. Ordered two eggs, made into egg-flip, with brandy. Everything going on favourably. 10 p.m.—Pulse, 84; temperature, 98°.

Eighth day (July 4).—10 a.m.—Pulse, 80; temperature, 97·4°. Wound looking as healthy as possible; clamp still firmly attached. Ordered some chicken-meat to-day in addition to the jelly, also two eggs in "flip." 10 p.m.—Pulse, 80; temperature, 97·2°.

Ninth day (July 5).—9 15 a.m.—Pulse, 80; temperature, 97·4°. Everything going on well; clamp still, however, refuses to come away; the upper part of the wound perfectly united. A more liberal scale of diet is now accorded—chicken, chicken-broth, a little toast; brandy, ice, milk and soda-water as before. Took a cup of chicken-broth twice during the day. Appetite increasing; spirits improved. 10 30 p.m.—Pulse, 80; temperature, 98°.

Tenth day (July 6).—10 a.m.—Pulse, 80; temperature, 98·2°. Diet as yesterday. Appetite and strength increasing. 10 p.m.—Pulse, 72; temperature, 96·4°.

Eleventh day (July 7).—8 15 a.m.—Pulse, 72; temperature, 97°. 10 30 p.m.—Pulse, 64; temperature, 97·2°.

Twelfth day (July 8).—10 a.m.—Pulse, 76; temperature, 97·6°. Clamp come away. Wound above and below its point of attachment quite healed.

Seventeenth day.—Up for the first time. Sat in a chair for about two hours.

Soon after this the patient returned home perfectly well.

I have given in this case, somewhat minutely, the details of its daily progress, not only on account of the careful and accurate manner in which they were noted by Mr. Knott, but also because it may prove of interest and importance to some surgeons to have a daily account of the treatment pursued, and management generally of such cases after operation. Had I adopted a similar course in the other cases of ovariectomy I have recorded on the present occasion, it would prolong to too great an extent a record

already perhaps somewhat extended beyond the usual limits of such communications.

**CASE IV. — Ovariectomy.** — A. B., an unmarried, fresh-complexioned, blue-eyed, well-nourished girl, aged seventeen, was admitted into the Richmond Surgical Hospital under my care on August 27th, 1877. About four months previously she first observed an enlargement in her abdomen, and the tumour steadily increased in size until it reached the large proportions it had when she was admitted into hospital. Menstruation had for the past two years been very irregular, and a profuse leucorrhœal discharge was observed when she was first examined. One very distressing condition present was extreme gastric irritability. She frequently suffered from retching and vomiting, which nothing appeared to have any effect in checking. The patient occasionally complained of great pain in the tumour, which she referred mostly to the right side. From August 20 to August 28 nothing specially noteworthy occurred. The tumour, however, steadily increased in size, and all her vital functions suffered accordingly. At this time the circumferential measurement at the umbilicus was thirty-five inches. After consultation with my colleagues I determined to defer any operative measures until the tumour had reached larger dimensions. In the course of two months (Nov. 9) the measurement indicated an increase of five inches. The patient was much debilitated from want, I believe, of proper nutriment, for, owing to the gastric irritability, very little food could be taken. On Nov. 10, assisted by Dr. Kidd and my other surgical colleagues, I performed ovariectomy, and experienced, as in the last case, considerable difficulty in detaching the cyst owing to the existence of many firm adhesions. These were situated mainly at the upper portion of the tumour. The contents, too, of several of the cysts were for the most part solid or semi-solid, and could not consequently be removed through the wound until the latter was considerably enlarged. Eventually, however, the tumour was successfully removed, and the pedicle, found to be a long one, secured by a clamp. Great care was taken to remove all the clots and red serum from the peritoneal cavity by carbolised sponges. The edges of the wound were then brought together by numerous points of interrupted carbolised catgut sutures. Throughout the operation the most careful Listerian antiseptic precautions were observed. During the progress to recovery of this patient nothing specially noteworthy

occurred. It continued without interruption, and on December 20th the patient returned home perfectly well.

CASE V.—*Ovariectomy*.—W. B., aged nineteen, a dark-haired, florid-complexioned, well-nourished, unmarried girl, was admitted into the Richmond Surgical Hospital under my care on January 22nd, 1879. She had been suffering from an abdominal enlargement for two years previously. She first consulted me in December, 1877. For two or three months previous to this she had suffered from amenorrhœa. On examination, I found a distinct enlargement, chiefly on the right side. On closer examination I satisfied myself that the case was ovarian—an opinion in which my colleagues concurred. The tumour was of such comparatively small size, and the patient's health so unaffected by it, that I considered it undesirable to undertake any operative measure until I had an opportunity of watching the progress of the case for some time longer. I may mention that I wrote to Mr. Spencer Wells at this time in reference to the case with the object of obtaining his opinion as to the desirability or otherwise of operating on ovarian tumours at a very early stage of their development. In an interesting reply, which, with his usual courtesy, he promptly sent, Mr. Wells quite concurred with me as to the desirability of postponing operative interference until the tumour reached larger dimensions. The patient accordingly returned to the country, but I had an opportunity of seeing her from time to time, and watching the progress of the case. This consisted in a steady, gradual increase in its dimensions up to the time when she was admitted into hospital in January, 1879. The circumferential measurement at the umbilicus was then  $41\frac{1}{2}$  inches, and from the xiphoid cartilage to the pubes 16 inches. Three days after the patient's admission into hospital I performed ovariectomy, and as there were few adhesions, and the cyst bilocular, little difficulty was experienced. The pedicle in this case, which was short and thick, was ligatured by a strong antisepticised silk ligature. The contents of the cyst were very remarkable, the fluid being as clear and colourless as spring water. The cyst was an unusually thin one. The strictest antiseptic precautions were used previous, during, and subsequent to the operation. After the operation the patient rallied well. For the first three days her chief, indeed only, nutriment was iced milk; on the fourth day there was considerable hæmorrhage from the vagina, a circumstance which I had not had occasion to observe in any of my previous

ovariotomies. This form of hæmorrhage, termed uterine epistaxis, is not looked upon by any means as an unfavourable circumstance after ovariotomy. At the same time that the hæmorrhage occurred there was a marked elevation in temperature, rising to  $102.8^{\circ}$  F. This also caused me some anxiety; however, the following morning the temperature and pulse both fell, and from that date the convalescence of the patient proceeded without interruption.

**CASE VI.—Ovariotomy.**—J. T., aged thirty-three, a tall, fair-complexioned, well-nourished, brown-haired, blue-eyed, married female, who had borne nine children, was admitted into the Richmond Surgical Hospital under my care in the early part of June, 1879, having been recommended to my care by Dr. O'Kelly Nolan of Gort. In June, 1876, she first observed an abdominal enlargement, which during the following seven months remained apparently stationary. In January, 1877, the tumour commenced to increase perceptibly in size, and went on enlarging during the following eighteen months until it reached the dimensions it had on her admission into hospital, the circumferential measurement at the umbilicus then being  $38\frac{1}{2}$  inches, and from the ensiform cartilage to the symphysis pubis 17 inches. The menstruation during the time the tumour was developing remained quite regular. Early in February she had an attack of peritonitis which yielded to suitable treatment. The tumour was globular, irregular on the surface—nodular, in fact, more prominent on the right than on the left side, and, from the facility with which it could be pushed from one side of the abdomen to the other, I considered it probable that the pedicle was a long one. The existence of ascitic fluid was also recognised. There was no œdema of the lower extremities. On June 28th I performed ovariotomy. The operation was done with rigid Listerian antiseptic precautions. I experienced exceptional difficulties and anxiety in this operation, owing to the large amount of adhesions, and also from the fact that the tumour consisted of a congeries of small cysts about the size of grapes, with walls so thin that they broke down almost immediately on being touched by the finger. These cysts were so numerous that it was impossible to remove their contents with the ordinary ovariotomy trochar. I accordingly made an incision into the tumour, and in doing so found that unfortunately it was impossible to prevent a small quantity of fluid entering the peritoneal cavity. Finally I had to enlarge the incision both upwards to a point fully an inch and a-quarter above the



umbilicus, and downwards almost to the pubes. After much difficulty I eventually succeeded in dislodging the enormous semi-solid mass, and found it, as I had anticipated, attached by a long, thin, slender pedicle. This was then secured by strong carbolised silk cord and returned into the abdomen. The "toilet of the peritoneum" was, owing to some of the cystic fluid having escaped into the peritoneal cavity, conducted with minute care. A glass drainage tube was then inserted at the lower angle of the wound. Of the other details of the operation there is nothing, I think, specially noteworthy, and the same may be said as regards the subsequent daily progress of the case. The wound healed immediately, not a single drop of pus having even soiled the dressings. On the seventh and eighth days after the operation the patient complained of much abdominal pain, and both pulse and temperature curves rose accordingly. I believe this to have been due altogether to flatulence. The day following the pain ceased, pulse and temperature fell, and nothing further occurred to interrupt the progress of the case towards complete recovery. On August 4th the patient returned to her family, and since that I have on several occasions heard from Dr. O'Kelly Nolan that she has continued to enjoy uninterrupted good health. In none of the ovariectomies I have performed or witnessed have I seen a case surrounded with greater difficulties—one requiring so large an incision or a longer time before the operation could be completed. Having regard to these circumstances, as well as to the almost universal adhesions, the tearing of tissue, the hæmorrhage, the escape of fluid into the cavity of the peritoneum, the necessarily protracted sponging of the intestines and the "valleys of the pelvis," one cannot but be forced to the conclusion that Listerism was the main factor in bringing about the unexpected primary union of the wound and the almost uninterrupted recovery of the patient.

CASE VII.—*Ovariectomy*.—M. S., aged forty-five, a healthy-looking married female, was admitted into the Richmond Surgical Hospital, under my care, on June 16, 1880, suffering from an abdominal tumour, having been recommended to me by Dr. Mathews of Cavan. She stated she had been married seventeen years, and had had five children, three of whom were alive and healthy. The patient stated that until the appearance of the abdominal tumour she had always enjoyed excellent health. Her "changes" stopped about eighteen months ago, and it was not until nearly six



months subsequently that she first noticed the tumour. At that time it was about the size of a hen's egg, and was situated in the left iliac fossa. Since then it has gradually increased in size. The tumour presented a somewhat globular appearance, being slightly more prominent on the left than on the right side. The circumferential measurement at the umbilicus was  $39\frac{1}{2}$  inches. From the umbilicus to the anterior superior spine of ilium measured 10 inches, and from the same point to ensiform cartilage  $7\frac{1}{2}$  inches. There was apparently a small amount of ascitic fluid. The integuments moved freely over the tumour, which was lobulated. The uterine examination, which was kindly made for me by Dr. Kidd, indicated a normal condition of that organ. On June 24th I performed ovariectomy. The tumour was easily exposed, and quite free from adhesions. It was found, however, to be multilocular, and the contents very thick, so much so that it was impossible to evacuate them by the trocar. I accordingly had to enlarge the incision, and break up with my hand many of the smaller cysts. In doing this a considerable amount of their contents, consisting of a dark greenish-coloured fluid, unavoidably escaped into the cavity of the peritoneum. After some time, the tumour was sufficiently diminished in size to allow of its being extracted. The pedicle was then ligatured, severed, and cauterised. Great and exceptional care was taken with the "toilet of the peritoneum," in consequence of the escape of so much of the contents of the ruptured cysts. The ligatured pedicle was then returned into the abdomen, and, a drainage tube having been inserted, the wound was closed by numerous points of interrupted catgut sutures. For about an hour after being put to bed there were some signs of collapse, the pulse being very weak—in truth, almost imperceptible. After that, however, she rallied, and towards evening was in every respect much better. For the first three days the patient's diet consisted of iced milk, at times diluted with iced soda-water. On the fourth day a lightly-boiled egg was allowed in addition to the milk, and on the day following chicken jelly in small quantities. The case progressed towards recovery without interruption, pulse and temperature never deviating from the normal standard from the day following the operation. On the twelfth day the patient was allowed to sit up in bed, and on the sixteenth was able to get up. She soon after returned home perfectly well.

In reference to the present condition of the patient, I may state that in a letter which I recently (October 10th) had from

Dr. Mathews he makes the following gratifying statement :—" We now come to the great case of Mrs. Sheridan. I wished her to have gone up to the Exhibition, and called some day on you, to see if you really would know she was the same woman you operated on. You remember her wan, anxious-looking appearance, and very thin flesh, but now she is the very picture of health, more youthful-looking by years, active in walking, and, I am certain, she is two or three stones increased in her weight since she left Dublin. She never has had to complain or ask my advice, except for some occasional dyspeptic symptoms. You really may be proud of her case."

It will be observed that in the account of the first two of these ovarian cases the death in the first is stated to be "apparently from exhaustion;" and that in the second "I failed to discover any cause for the patient suddenly sinking." The autopsies gave no demonstrative evidence whatever as to the cause of death, the results of these being, in truth, essentially negative; and I felt, until recently, unable to give any satisfactory explanation of results so unlooked and un hoped for. A study, however, of Dr. Marion Sims' admirable essays, on the "Treatment of Gunshot Wounds of the Abdomen in relation to Modern Peritoneal Surgery," has done much to dispel the doubts and difficulties I had in reference to what was to me so long an enigma. I now feel certain that the cause of death in these two cases was due to septic influence, that form of blood-poisoning which may be well called acute septicæmia, and which proves fatal with a rapidity at times so appalling, and depending far more on the quality than on the quantity of the exudation. "We have yet to learn," says Dr. Marion Sims, "that the vital powers may be as suddenly overwhelmed by septic agents in a concentrated dose as by opium in a concentrated dose." . . . . Again he says: "There is no more reason why the system should not be suddenly overwhelmed by the rapid absorption of concentrated septic fluids than by the rapid absorption of an overdose of morphia. Opium in sufficient doses may kill in from eight to twelve hours; septicæmia may do the same thing often in less time." I cannot but feel satisfied that had more carefully-applied antiseptic precautions been adopted, and especially drainage, in all probability I should have been able to record in these two cases different and more satisfactory results.

The remaining five cases, all of which were brought to a successful issue, were not characterised by any exceptional peculiarity deserving

any lengthened special consideration. The third one was chiefly remarkable for the number, extent, and firmness of the adhesions. In the fourth the solid contents of the cysts, and extensive adhesions to neighbouring organs were causes of much embarrassment during the operation. In the fifth hæmorrhage subsequent to the operation, and in the sixth and seventh the great size of the tumour, the large number of cysts, their solid contents, the extensive incisions required, the existence of ascites, and extensive adhesions, caused the operations to be attended with exceptional anxiety and difficulty. The operation is one about which, as in herniotomy, the surgeon can never make any accurate forecast as to whether it will be attended with difficulty or not. He must be equally prepared to find the operation one of the easiest and simplest in surgery, or one of the most embarrassing and difficult. Should it be among the latter, however, he may comfort himself with the reflection that cases apparently the most unpromising at the time of operation are often attended with the happiest results, and those obtained in most of the preceding cases are signally illustrative of the truth of this statement.

From the experience derived from my own cases, and those of my colleagues, I think the following propositions in reference to ovariectomy may be stated:—

1. That the mortality of the operation has been, and is largely, diminished by Listerian antisepticism, which should, therefore, in all instances be employed.

2. That the strength of the carbolic spray should never exceed 1 in 40, and the solution in the steam-spray producer should be warmed previous to use.

3. That, in order to get with greatest facility a warm, even aseptic atmosphere and the least disturbance, the operation should not be undertaken in the operating theatre of an hospital, but in a moderately sized ward, which should be given up for the time exclusively to the patient and her attendants.

4. That the intra-peritoneal method of securing the pedicle is to be preferred to the clamp.

5. That the "toilet of the peritoneum" should in all instances be carefully carried out.

6. That drainage should be recognised as one of the most essential features in the after-treatment of ovariectomy cases.

7. That the existence of extensive peritoneal adhesions does not appear to influence unfavourably the result of the operation.

8. That in forming an estimate of the probable results of ovariectomy a greater value is to be attached to pulse than to temperature curves.

9. That the following precautions, emphasised by Dr. Atthill,<sup>a</sup> previous and subsequent to the operation, should be attended to:—

(a.) The administration of a mild aperient before the operation.

(b.) Withholding solid food for twenty-four hours previous to the operation—allowing, however, beef-tea, eggs, milk; and subsequent to it ice, milk and soda-water, beef-tea.

(c.) Stimulants only to be given in cases of collapse, or in those of exceptional debility.

(d.) Opium, either by the mouth or hypodermically, should be given after the operation. The surgeon must exercise his own discretion as to the amount.

10. That pure ether is the anæsthetic that in most cases will be found to answer best.

CASE VIII.—*Excision of the Uterus with both Ovaries.*—The following case, which necessitated the rarely-performed operation of hysterectomy, one of the latest developments of abdominal surgery, is replete with so many features of clinical interest as to render it well worthy of record.

Anne L., aged forty-two, a spare, dark-complexioned, married female, was admitted into the Richmond Surgical Hospital, under my care, on Dec. 29, 1879. She was suffering from an enormous abdominal tumour, the commencement of which she first observed about twelve years before her admission into hospital. She was the mother of three children, and stated that she observed the enlargement shortly after the birth of the last one. It slowly increased in size until it reached the exceptionally great dimensions it had on her admission into hospital. It did not, until quite recently, interfere with her general health, or, indeed, much with her comfort. About four weeks previous to her admission to hospital she commenced to suffer from a sudden increase in the size of it, and this was accompanied with a great deal of sickness of her stomach—in fact, she had the greatest difficulty in keeping anything on her stomach except fluids. She had lived on beef-tea, chicken-broth, and other liquid food, for four or five weeks previously, not having been able to bear any solid food whatever. She was a healthy-looking woman, and

<sup>a</sup> Med. Press and Circular. Feb. 12, 1879.

well nourished. On examining her abdomen I found an enormous enlargement caused by the tumour. It was irregular on the surface, being more or less lobulated. There were one or two indistinct points of fluctuation, and uniform dulness over the whole surface of the tumour, anteriorly and laterally. The two or three points at which I thought I perceived fluctuation made me come to the conclusion that I had to deal with some form of cystic disease. But, from the history of the case and from the appearance of the tumour, I was inclined to think—and this view was shared by my colleagues, especially after an examination made with the sound—that the tumour was not merely uterine, but was probably associated with ovarian disease; that we had, in other words, mixed uterine and ovarian disease. I asked Dr. Kidd, our consulting obstetric surgeon, to make an examination of the case for me. I was unable to meet him in consultation on the day he called at the hospital, but he kindly wrote me a letter on the case, from which I may make the following extract:—

“It is a very peculiar case; very irregular in the outline of the tumour. There are patches of indistinct fluctuation. On the right side there is one large round semi-elastic mass, and into the interior of this the sound passes  $4\frac{1}{2}$  inches. The uterus is so much dragged up out of the pelvis that I could scarcely reach to it—in fact, could not get at it till I passed two fingers into the vagina. The os is thrown very much forward, and resting on the brim of the pelvis. The tumour has been of very slow growth. My impression is that the mass in the right side of the abdomen is an enlarged uterus, and the remainder is either a mass of fibro-cystic tumours of the uterus or a multilocular tumour of the ovary closely connected with the uterus. If you operate you will probably have to remove the uterus.”

It will thus be seen that Dr. Kidd's opinion, in the main, coincided with the one I and my colleagues formed as regards the nature of the tumour. Having regard to the great anxiety of the patient to obtain relief, and encouraged by the success that attended the removal of a somewhat similar tumour by my colleague, Dr. Thornley Stoker, the previous year, I determined to remove the enormous growth. I was further encouraged by the fact that the patient was a person of a quiet, placid temperament, and hopeful disposition. She was most anxious to have the operation performed, and on several occasions pressed me to undertake it. I accordingly did so. On making an incision

at the point where I thought the fluctuation was most distinct I plunged the trocar into the tumour, but there was no evacuation of any fluid. There was a thick unctuous substance which would not pass through the tube. I made another incision at a situation where I had also felt fluctuation, but without being able to extract any fluid there either. I then passed my finger into the tumour, but found that it was hopeless to expect to evacuate fluid from it, as it was mainly solid, and gave the sensation as if you passed your finger into a mass of honeycomb. I enlarged the wound, to a very great extent, up towards the sternum, in order to give room to extract the tumour, which after a great deal of difficulty I succeeded in doing. At the moment that the tumour was exposed to view very alarming symptoms supervened. The patient became pulseless, her lips grew white, her eyes turned up, and respiration ceased. For a few minutes I was in dread that she had expired on the table. However, our resident surgeon, Mr. Lentaigue, gave her a subcutaneous injection of ether, which had the effect of rousing her, and I was enabled to complete the operation. The pedicle, which consisted of the neck of the uterus, was transfixed with strong silk ligatures, and securely fastened, and, in addition, in order to make assurance doubly sure, I passed in a large, strong acupressure pin, and encircled it with a carbolised silk ligature, and then removed the tumour. I endeavoured to enucleate it, but finding that I could only do so to a certain extent, abandoned the attempt. The remaining steps of the operation it is unnecessary to detail. Half-an-hour after the operation her temperature was  $99.6^{\circ}$ , her respiration 26, and pulse 116, so that there had been a fair reaction. She expressed herself quite free from pain and suffering, and very hopeful as to the result. At half-past four in the afternoon, she was in very much the same condition, the only thing she complained of being thirst, which was relieved by placing small pieces of ice in her mouth. Her pulse and temperature were then normal, and, on the morning after, her temperature was still normal, but her pulse was very fast and weak, her skin moist, and her thirst great. At nine o'clock on the day after, her pulse had become so weak that it could not be counted. Her temperature was  $98.4^{\circ}$ , and she was then taking ice, milk and brandy, and latterly beef-tea. Nutritive enemata were then given, consisting of yolk of eggs, Hoffmann's anodyne, and tincture of digitalis. The first was not retained, but the second was, and with very



good results, as I was then enabled to count the pulse, which for some time previously I had not been able to do. The enemata were given every third hour, the fourth and fifth not being, however, retained. She also got beef-jelly and brandy by the mouth. At ten o'clock I saw her, and found that her pulse had again become almost imperceptible. I gave her another nutritive enema, but without producing very much change. The patient now became much weaker, and syncope began to come on. For this she got a drachm of ether hypodermically. At twelve o'clock she got very much weaker, and soon after passed away quietly.

On making a *post mortem* examination next morning I found that the upper portion of the wound had almost completely closed. On examining the abdomen I found no trace of hæmorrhage. There was a little oozing of blood on the surface of the stump; this blood had coagulated, but not more than a drachm had exuded. Therefore, her sinking was not caused by any internal hæmorrhage, but probably from exhaustion and shock. In reference to the pathology of the tumour, Mr. Abraham, the Curator of the Museum of the Royal College of Surgeons, has furnished the following note:—  
“The tumour measures in its greatest diameter nearly thirteen inches, and in its thickness about six inches. In shape it is sub-discoid, but the presence of two large lobar protuberances in its upper border gives it a somewhat cordate appearance. In some other parts, also, an attempt at lobation is visible; and under some of these projections the consistence is softer, probably from the presence of adjacent cysts. Under one or two of the smaller lobes the consistence is particularly dense and firm. The new growth is apparently from the anterior wall of the uterus, of which a great part of the fundus and body must have been involved. In its removal, a considerable portion of the broad ligaments, together with the ovaries and Fallopian tubes, were taken away, a course which must have been necessary from the fact that these ligaments form a great part of the tumour's covering. These parts all show more or less hypertrophy. The ovaries are enlarged and altered in shape; the one measuring five centimetres in length, three in breadth, and two in thickness, the other seven centimetres in length, four in breadth, and one in thickness. They present numerous cysts in their substance, as do their round ligaments. The neighbouring structures, such as the organ of Rosenmüller, also appear to be diseased. The section through the tumour has a marbled and mottled appearance, solid, made up of nodules of



different consistence. This is very vascular. Much of it has a sarcomatous or cancerous appearance, and but little of it has the fibrous appearance of the ordinary uterine tumour. In some places towards the periphery the degeneration seems to have so far extended as to give rise to the formation of cysts containing a thick glairy fluid, but not in very great amount; some of which exuded was found coagulated next day."

The Committee of Reference of the Pathological Society, to whom the tumour was referred, examined it, and were of opinion that it was not carcinomatous, but an example of uterine myofibroma.

#### OPERATIONS FOR INTESTINAL OBSTRUCTION.

The following cases are illustrative of the fact—one noticed by all surgeons of operative experience—that, as a rule, every instance of serious intestinal obstruction (and more especially is this true of cases indicating herniotomy) has its own peculiar feature of special interest. This circumstance renders the study of the last-named operation in particular one of the most attractive as well as important in the domain of practical surgery.

The extreme difficulty that at times attends the formation of an accurate estimate in cases of intestinal obstruction are well known and signally exemplified by the particulars of the first of the following cases. If a proof of this were wanting, it would be furnished by the fact that it even baffled the diagnostic skill of such masters of surgical science and art as my former teachers and colleagues, Professors Adams and R. W. Smith. For the particulars of the case I am indebted to my former distinguished clinical assistant, Dr. Charles N. Gwynne, of Sheffield:—

**CASE IX.—Herniotomy.**—On Sunday, March 30th, 1873, W. K., a smith by trade, was admitted into the Richmond Surgical Hospital suffering from severe pain in the region of the abdomen accompanied by persistent vomiting.

*Previous History.*—On the previous Thursday, while sitting down, engaged in punching a hole in an iron plate, he felt a sudden pain across the abdomen, as if "something wrong" had taken place, which obliged him to desist from his work. He soon afterwards was attacked with violent vomiting, which returned at intervals during the three following days. Failing to get relief from these distressing symptoms, and much weakened from the vomiting

which prevented him taking any food, he on Sunday applied for admission into hospital, and was at once admitted. When seen shortly afterwards by me the case presented all the symptoms of intestinal obstruction—his countenance was peculiarly anxious, his pulse hard and wiry, there was much pain in the abdomen and persistent vomiting. On examining his abdomen I discovered a small inguino-scrotal tumour at the left side, which had the appearance of oblique inguinal hernia, wanting at the same time some of its characteristics. It was soft and flaccid, irreducible, and there was no distinct impulse on coughing—in fact, it seemed in many respects to resemble a hydrocele of the cord. On questioning the patient it was found that it had existed there for an indefinite period—in fact, longer than he could remember. The diagnosis of the case was thus involved in much difficulty; regarding, however, the severity of the symptoms that were present, I concluded that hernia had existed for a lengthened period, and was perhaps congenital, but that now, in consequence of some accidental circumstance, more of the gut had come down and had become constricted. The patient's bowels had not been moved since the Thursday previously. As the case did not appear to be one that rendered an immediate operation necessary, it was thought advisable to defer it to the following day, should it be requisite. Accordingly he was ordered a hot bath and an enema of castor-oil and turpentine, but all means were unavailing to give relief. All through the day and the night that followed there was no alleviation of the symptoms he came in with; and when he was again seen on Monday morning, and a consultation held, it was decided that an operation should be performed. Accordingly on that day, March 31st, I performed the operation for strangulated hernia, aided by Professors Adams and R. W. Smith. On cutting down upon and opening the sac it was found to contain nothing but omentum, and there was no evidence of the gut being in any way implicated. I then endeavoured to restore the omentum into the abdominal cavity by partially dividing the wall of the internal ring on a director, but owing to the extensive adhesions that were formed on all sides it was impossible. The omentum seemed to preserve its normal appearance, and there was no sign of ulceration anywhere visible. Sutures were then put into the wound, and the patient brought back to his bed. As the operation failed to throw much light upon the case, it was at once concluded that a constriction of the gut existed somewhere higher up, beyond the reach of operative inter-

ference. The patient was put upon low diet and beef-tea, also brandy (6 oz. daily), and was ordered a grain of opium in a pill, to be taken every third hour. Pulse 98, temperature 100°.

April 1st.—Pulse this morning 102, temperature 98·4°; slept very little during the night; vomiting continues now of a stercoraceous character; six leeches were applied over the belly to-day; ordered five minims of dilute hydrocyanic acid in burnt brandy every fourth hour; pulse in evening 105, temperature 98·2°. Ordered some ice to keep in his mouth.

2nd.—Pulse in morning 100, temperature 97·4°; had a bad night; great depression; vomits dark fluid like coffee grounds; intently desiring a motion from the bowels; treatment as yesterday, except no more application of leeches; troublesome hiccough. In evening—pulse 101, temperature 97·6°.

3rd.—Did not sleep last night; symptoms in no way abated; no motion of any kind from his bowels; abdomen very sore; lies on his back with his lips drawn up; wound dressed daily with cold water dressing. There has been for last two days considerable ecchymosis into the cellular tissue of the scrotum. Pulse is to-day 88, temperature 98·2°.

4th.—Rather worse to-day; very weak; vomiting and hiccough incessant; does not complain so much of pain in abdomen; treatment continues the same; pulse 94, temperature 98°.

5th.—At half-past one I was called to see him, but on arriving at the ward found that he had been dead for about a minute.

At eight a.m. a *post mortem* examination was made. The internal surface of the stomach gave evidence of acute gastritis and was much congested, the duodenum also was considerably inflamed. On examining the jejunum it was found to be enormously congested, and was nearly black and full of fæces. Near its termination its calibre was found to be suddenly contracted by a constriction of its own walls. There was nothing remarkable elsewhere. There could be little doubt that the constriction just mentioned caused his death. In searching for the cause of it two or three strong fibrous bands were discovered stretching across the intestines about two or three inches in length. It would seem that the gut had been implicated in one of these bands and became strangulated, and that, subsequently, perhaps owing to the motions of the patient in bed, it had freed itself. There were no signs of ulceration or gangrene anywhere visible.

**CASE X.—Herniotomy.**—A. D., a thin, healthy-looking, fairly-nourished married female, aged sixty, was admitted into the Richmond Surgical Hospital under my care, on March 22nd, 1880, suffering from strangulated femoral hernia. She stated that for many years she had had a hernia which, however, had always been easily reducible. She never wore a truss. Three days before her admission she experienced difficulty for the first time in reducing it; and, in fact, failed in doing so. From that time till her admission into hospital, a period of three days, she suffered much pain, and vomited frequently. What was ejected had, on the day of her admission, acquired a stercoraceous character. On examination the existence of a small oval-shaped, soft painful tumour, about the size of a hen's egg situated in the right groin, was discovered. She had the peculiar expression of anxiety and suffering which patients with strangulated hernia invariably acquire. She suffered much from "twisting" pains, and vomited frequently stercoraceous matter. I tried taxis while the patient was in a warm bath, and subsequently when she was under the influence of ether, but without success. I did not press this method of reduction to any great extent, having regard to the fact of the existence of strangulation for three days. I accordingly, using strict Listerian antiseptic precautions, exposed the tumour in the usual manner, and opened the sac. A large mass of omentum formed the greater portion of the tumour, but beneath this a small knuckle of deep chocolate-coloured intestine, about the size of half a filbert nut, was found, which was returned without difficulty. Instead of attempting to reduce the mass of omentum, I encircled it with a strong catgut ligature, and removed it. The edges of the wound were then brought together with numerous points of interrupted catgut suture, except at the inner angle, where I inserted a small drainage tube and carbolic antiseptic dressings.

The progress to recovery of this patient was uninterrupted. There were two features of special interest in this case. One was, it being an example of the rare form of strangulated hernia in which only a small portion of the lumen of the gut was involved; and the second was the facility with which reduction was effected without any stretching or division of the ring.

**CASE XI.—Herniotomy.**—Elizabeth F., aged sixty-seven, a spare, badly-nourished, delicate-looking woman, was admitted into the Richmond Surgical Hospital, under my care, on January 25th,

1882, suffering from the usual prominent symptoms of strangulated hernia—vomiting, constipation, and pain. She was recommended to me by Dr. Albert Speedy. For five days she had had no motion from her bowels. A small femoral hernia on the left side was found. Her abdomen was tense and painful, and vomiting stercoraceous. On her admission my clinical assistant, Mr. Cassidi, placed the patient in a warm bath and tried the taxis, but without producing the desired effect. It was again tried after the patient was put to bed, but with the same result. Shortly after I was summoned to the case, and made a further attempt to effect reduction, but without success. The patient, who was also suffering from bronchitis, was in a state of great prostration; the pulse 120, very weak and compressible. I determined then that no time should be lost in relieving the patient, and accordingly I exposed the tumour and opened the sac. The intestine I found much congested. No difficulty was experienced, after division of the stricture, in returning the bowel. Mr. Cassidi kindly furnished me with many of the following notes of the case subsequent to the performance of the operation:—

First day (6 p.m.).—Gastric irritability has not subsided altogether; has vomited the milk and water given to her. Ordered ice in small quantities to suck. Says the abdominal pains are better; cough very troublesome; pulse good, 120.

Second day.—Slept all night; pulse strong and full, 120; temperature  $102^{\circ}$ ; no pain; abdomen soft; great thirst; vomiting has ceased.

Third day.—Wound dressed, and perfectly aseptic.

Fourth day.—During yesterday, after the dressings were changed, her bowels were moved; during the night she was very restless, and temperature went up to  $102.5^{\circ}$ .

Seventh day.—The bowels not having been moved since the fourth day a small enema was given, which had the desired effect; the wound is quite healed; bronchial trouble increasing; patient very weak. Brandy and expectorants ordered.

Eighth day.—Patient had four motions to-day. To check this tendency to diarrhoea opium was administered, which was found to answer this purpose; the prostration was, however, very great, and temperature still kept very high,  $102.2^{\circ}$ .

Ninth day.—Patient remains in the same state of prostration. Her breathing more and more impeded by the mucus which she has no power to expectorate. The temperature has fallen considerably to-day,  $98.2^{\circ}$ , and pulse not so rapid, but very weak.

Tenth day.—Has rallied a little to-day, but respiration still much impeded; had a motion from bowels.

Eleventh day.—Patient died this morning, apparently from exhaustion consequent on the bronchial complication, which resisted all the usual local and constitutional remedies which were applied.

**CASE XII.—Herniotomy.**—Anne M., aged forty, was admitted into the Richmond Surgical Hospital, under my care, on July 19th, 1882, suffering from a large strangulated inguinal hernia, which protruded into the left labium. The patient stated that the intestine had often come down before, but that she never had any difficulty in returning it. On July 15th, however, it came down, and she then, for the first time, failed to reduce it. On the following evening she came to the hospital, and was seen by the resident surgeon, Mr. Kidd, who succeeded in reducing the hernia. A pad and spica-bandage were then applied, and the patient returned home. On July 19th the patient again came back to hospital, and stated that the hernia had again returned and became irreducible on July 17th. When she was admitted into hospital the tumour appeared somewhat larger and much more tense than before, and could not be reduced. Taxis was then tried while the patient was in a warm bath, but this proved equally ineffectual. The pain the patient suffered from was very great, and the vomiting frequent.

On the following morning I saw the patient, and finding reduction by taxis impossible determined to operate. On exposing the intestine I found it of a dark chocolate-colour—so much so that, in truth, I had some hesitation in returning it. I did so, however, and with the view of bringing about a radical cure, I stitched the pillars of the ring together with strong carbolised catgut ligatures. This was the first occasion on which I adopted this plan of effecting a radical cure of hernia, and the result has been in every respect most satisfactory. The operation and subsequent dressing of the case were carried out, I need hardly say, with strict Listerian antiseptic precautions. In the evening after the operation there had been some retching. These troubles were, however, promptly relieved by ice and opium.

Second day.—Had a motion from the bowels; no pain. Morning—pulse 100, temperature 99.4°. Evening—pulse 108, temperature 100°.

Fourth day.—Bowels again well moved; wound dressed; quite aseptic; complains of some pain at wound. Morning—pulse 100; temperature 98.4°. Evening—pulse 104, temperature 99.6°.

Sixth day.—Wound dressed; drainage-tube removed; slight serous discharge; no pus production.

Eighth day.—Left labium found greatly swollen and painful; an abscess evidently about to form; linseed-meal poultice to be applied.

Tenth day.—Abscess in labium opened. From this the patient's recovery continued uninterruptedly, and in a few days subsequently she left the hospital and returned home.

On October 2nd I had an opportunity of examining the patient, and found the condition of things most satisfactory. There had been no return of the hernia, and on placing my hand on the cicatrix and making the patient cough no impulse could be felt.

CASE XIII.—*Abdominal Section*.—In the following case I performed an abdominal section, or laparotomy, for the relief of a strangulated hernia, which had been previously reduced *en masse*.

Robert H., aged forty-two, by occupation a labourer, was admitted into the Richmond Surgical Hospital, under my care, on July 18, 1877, suffering from intense abdominal pain, with vomiting. For three years the patient had had a hernia, which, however, had always been easily reducible. On the day previous to his admission it came down, and he found to his great distress that for the first time he was unable to reduce it. He then applied to a hospital, where he was seen by one of the students, who, perhaps with more zeal than skill, proceeded to return the tumour into the abdomen. This he succeeded in doing, but this procedure was almost immediately followed by a marked aggravation of all the symptoms he had previously. Not getting any better towards evening he came to the Richmond Hospital. There was no external evidence of hernia, but the abdomen was tense and painful, and vomiting frequent. Everything given by the mouth was at once rejected, but morphia, hypodermically administered, relieved his intense pain, and gave him some sleep. Next morning I found the condition of the patient much worse. He sat up in the bed with his body bent forward and knees drawn up. Vomiting frequent and stercoraceous; pain intense, and pulse weak—in truth, almost imperceptible. Morphia was again administered hypodermically; brandy, with a few drops of laudanum, given internally; and mercurial ointment applied to the abdomen, on which a large linseed-meal poultice was subsequently placed. This was followed by great, but unfortunately only temporary, relief. The stercoraceous vomiting, hiccough, and pain, after a few hours cessation, returned with redoubled vigour, and the condition of things was becoming so desperate that, after consul-



tation with my colleagues, I determined to give the patient the chance, obviously but a very slender one, afforded by searching for and freeing the obstruction, by means of an abdominal section. Accordingly, assisted by my colleagues, Mr. Thomson, Mr. Stoker, and Mr. Corley, I performed the operation, and found what I had anticipated had occurred. The portion of intestine which had protruded and become strangulated had been returned *en masse*. In addition to this there was distinct evidence of extensive peritoneal and enteric inflammation. No difficulty was experienced in reaching the strangulated gut, but the same cannot be said as regards freeing the constriction. It was, however, satisfactorily accomplished, and the wound then closed. Morphia, given as before—hypodermically and by the mouth—together with small doses of brandy, every third hour, was followed by such a marked improvement in the patient's condition that I began to think that possibly I had been in error in taking so very gloomy a view of the case. The hiccough, vomiting, and pain ceased, and the pulse became much stronger. The patient also had some hours sleep. At midnight, however, the vomiting and pain recommenced—the former of a greenish colour, but not fæcal. The hypodermic morphia injections again relieved these symptoms, but next morning they recurred with greater violence than ever. The condition of the patient continued to get steadily worse, and at about 3 o'clock, p.m., it was sufficiently evident that the end was approaching. The pulse became almost imperceptible, the extremities cold, and a purplish violet discoloration appeared on the back of the hand, the respiration laboured, and hiccough very distressing. From 3 to 4 p.m. the patient got gradually weaker. His face was bathed in a cold perspiration, and extremities got very cold. At 4 o'clock he commenced to rave and toss about. He seemed to be in great pain. After this he became less agitated, and died quietly at five o'clock, three days after his admission into hospital, and twenty-eight hours after the operation.

The tenth case in the preceding series is of special interest, as showing what a revolution has taken place in abdominal surgery since the introduction of Listerian antiseptic practice. Did a similar case now occur how would we, in all probability, deal with it? On finding the symptoms did not depend on any obstruction in the irreducible inguino-scrotal hernia, would we not, using strict antiseptic precautions, have freely opened the abdominal cavity, searched for and liberated the constricted gut? Had this been

done it is quite possible the patient's life might have been saved, though the operation would have been, notwithstanding what has been said to the contrary by some surgeons of eminence, one of extreme gravity.

A comparison has been instituted between the operations of Ovariectomy and Laparotomy, with the view of showing that the good results that, as a rule, are now obtained in the former operation, may be looked for in the latter. The comparison, however, is hardly an admissible one, as the conditions requiring both these operations are so different. In one case the intestines are, as a rule, more or less affected, which in the other is not so. The peritoneum, it is true, is freely laid open in both, but in cases indicating laparotomy acute inflammation is often present, and no surgeon, of even limited experience, would undertake an ovariectomy if any evidence of such existed. The two operations, therefore, should not, in my opinion, be contrasted, there being little or no analogy between them. Antiseptics, doubtless, have done much to render the peritoneum more easily dealt with and operated on than before. But, although they can diminish, they can never eliminate the enormous risks attending a laparotomy.

As regards the operation of Herniotomy, every surgeon of experience must agree with the wise statement of Sir James Paget, in reference to the difficulty of making statistical deductions with the view of establishing definite rules to guide the surgeon in the treatment of strangulated hernia, as to do so would, as he has said, "require a tabulation of at least a thousand cases," a personal study which in a lifetime no single hospital could well supply. Still, the slow but steady accumulation of facts from various sources connected with this operation will doubtless in time furnish a body of evidence that will enable the operator to act with a deliberation and confidence as to the result in these cases which at present it must be admitted he cannot do. However, with the knowledge we have, we can, I think, endorse the opinion of Hey as to the importance of early operation; we can condemn unhesitatingly the practice of what has been termed "reduction at all hazards," whether it be done by Seutins' or Fife's method; we can warn inexperienced persons as to the grave peril, and at times fatal consequences—of which Case XIII. furnishes a signal illustration—that attend "trying their hands" in making prolonged and forcible attempts to effect reduction; and in the after-treatment we can, while condemning the use of

purgatives, proclaim the advantages to be derived from the use of opium, rest, liquid food, ~~ice~~, diluted stimulants, drainage, and antiseptics.

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ART. XIV.—*On the Poisonous Properties of Borax and Nitre.* By CHARLES A. CAMERON, M.D.; Fellow and Professor of Hygiene and Chemistry, R.C.S.I.; Vice-President, Society of Public Analysts of Great Britain and Ireland; Medical Officer of Health, Dublin.

IN the works on Toxicology, borax (sodium biborate,  $\text{Na}_2\text{O}, 2\text{B}_2\text{O}_3, 10\text{H}_2\text{O}$ ) is not enumerated amongst the poisons. This substance belongs to the *Materia Medica*, but is rarely prescribed for internal use. Its dose is, for an adult, 30 grains.

Borax and other salts of boracic acid have been recently suggested as antiseptic agents. Dumas found that borax prevented the action of yeast upon sugar—though, according to Petit (*Comptes Rendus*, LXXV., 881), it merely retards the action of the ferment. Dumas' views are supported by J. B. Schnetzler (*Pharmaceutical Journal* (3), iii., 846), who maintains that borax destroys the activity of the bodies that develop fermentation and putrefaction, and also that it kills the infusoria and protoplasm of the vegetable cell. According to Rabotton (cited by Schnetzler) and Bédoin (*Comptes Rendus*, LXXXIII., 579), carcasses of animals which had lain for months in soils saturated with native borax remained free from odour and well preserved. Suillot (*Bulletin of the Chemical Society of Paris* (2), XXV., 346) recommends the use of calcium borate as a preservative for meat. In contact with meat this salt is resolved into free boric acid, which prevents the formation of mildew, and a basic salt which retards or prevents fermentation. Very recently a mixture of borax and glycerine has been proposed as a preservative for food, especially of milk. With respect to the latter article, the necessity of keeping it fresh, when imported into towns from the country, has induced the somewhat general use of such anti-ferments as nitre, borax, glycerine, salicylic acid; and borax and salicylic acid appear to be pretty largely employed in the preservation of milk, cream, butter, and other foods. It is worth considering whether or not the constant use of such articles is likely to prove injurious to health. With respect to borax, a case of poisoning of an ox by the use of this salt has recently come under my observation. A

gentleman in the county of Limerick purchased a pound of Glauber salts from a druggist. The salts were given to a cow. The animal became very ill and died in the course of a few hours. I found that the salts given to the animal consisted of borax. It would seem, therefore, that borax given to animals in quantities equal to the medicinal dose of Glauber's salt (sodium sulphate) acts as a violent poison.

It requires some skill in order to detect small quantities of borax in milk. The suspected substance should be dried and burnt at a low temperature; the ash is then to be moistened with a little pure sulphuric acid, and the boric acid thus set free dissolved out by alcohol. The alcoholic solution is next to be evaporated nearly to dryness, and the loop of a platinum wire dipped into it; the moistened loop, when placed in the colourless flame of the Bunsen burner, colours it more or less green. If the flame be examined by the spectroscope, the presence of a very minute trace of boric acid is detectable.

There are recorded many cases of poisoning of man by nitre taken in mistake for purgative salts, &c. This salt appears to be frequently sold in mistake for Glauber salts. Nine cases of poisoning of horned cattle by nitre given in error have come under my own observation, two of which are of recent occurrence. A farmer in the county of Roscommon purchased a pound of "salts" from a general dealer in the town of Roscommon. The medicine was given to a cow. The animal died in about six hours after. Another farmer bought in the same shop three pounds of purgative salts, which he gave to three bullocks a year old. Two of the animals died upon the day the medicine was administered to them, and the third expired early on the following morning. They were not purged, but they exhibited symptoms of distress, "shivered all over," refused food, and drooped their heads. They were opened by a butcher, who professed a knowledge of the diseases of cattle. He was not able to detect the presence of disease, but he found the stomach "blackened as if it were burnt." I found so much nitre in the contents of one of the stomachs that on drying a portion of the mass it burnt like tinder, evolving the beautiful violet light characteristic of the presence of potassium salts.

The vendor of the so-called Glauber salts had actions taken against him by the owners of the poisoned cattle, and at the Roscommon quarter sessions, held on the 9th of October, 1882, the

county court judge gave decrees against the defendant for the value of the animals, and the plaintiff's costs. During the trial the defendant and his assistants admitted that they were unable to discriminate nitre from washing-soda or Glauber salts, although they sold those articles in large quantities. In the shops in small towns, where everything "from a needle to an anchor" is sold, it is to be feared that the accidental substitution of noxious for innocuous drugs is of no infrequent occurrence. Of the following mistakes made in such shops I have had official cognisance:—The sale of arsenic for arrowroot, of tartar emetic for cream of tartar, of arsenic for sodium bicarbonate, of corrosive sublimate for nitre, of oxalic acid for Epsom salts, and of sugar of lead for nitre. Now that we have a Pharmaceutical Society in addition to our Apothecaries' Company, it is time that the sale of any kind of medicine by ironmongers and grocers should be put a stop to.

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#### ERGOT IN SKIN DISEASES.

At the recent meeting of the American Dermatological Society, Dr. Heitzmann, of New York, said that ordinarily he was not disposed to be enthusiastic with regard to the use of remedies, or the efficiency of drugs; but he had seen such good results from the use of the fluid extract of ergot that he felt warranted in bringing it to the notice of the Association. In certain forms of acne, the large pustular form in the beard particularly, he is accustomed to use it in conjunction with Vleminckx' solution locally. Perhaps five or six per cent. may be set down as incurable, but the rest will be benefited by these remedies; of course they have a tendency to return, but they may be again treated successfully in this way. The second disease is rosacea in both of its forms, but especially in cases marked by the dilatation and new formation of vessels. In these ergot had such good effects that he extended the experiment to other diseases of the skin. He used it in psoriasis without the least result; and in a number of cases of eczema without better effect. In erythema, urticaria, and pruritus, however, the effect was most marked. He reported a case of a gentleman with chronic urticaria who was completely cured by a few half-drachm doses. Although he had used the remedy freely, and had found a few who objected to the taste and refused to take it, he had not seen a single bad effect from the remedy.—*Boston Med. and Surg. Jour.*, Sept. 14, 1882.

PART II.  
REVIEWS AND BIBLIOGRAPHICAL MEDICAL OBSERVATIONS

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*On Cancer of the Breast, with coloured Illustrations.* By THOMAS NUNN, F.R.C.S. Eng.; Consulting Surgeon to the Middlesex Hospital. London: J. & A. Churchill. 1882.

MR. NUNN'S treatise on Diseases of the Breast presents much to commend it to the public; it is well printed, and its illustrations are excellent. The size of the book, unavoidable in consequence of the illustrations, is a serious hinderance to the reading of the text, for now-a-days we have in great measure given up reading quarto books. The text presents an admirable summary of the most important opinions of the present day on the various vexed questions regarding cancer, but it might certainly have been better arranged. The division of the work into Introduction, Clinical and Practical, and Pathological and Speculative parts is not one we should have selected. The Introduction might well have been omitted or embodied in the Pathological and Speculative. Placed in the front of the book, it rather tends to discourage the reader and prevent his study of the chapter on Practical and Clinical details. It suggests that the writer knows but little of his subject, while he would wish to appear to be familiar with it. To what purpose are the following high-sounding words brought into the study of scirrhus of the breast? "Hitherto I have only spoken of cancer in relation to connective tissue, because this tissue is the primitive fundamental source of all others. For, again, carry the mind back to the early stages of organisation. After the era of pure cells in the fecundated ovum, we get the age of embryonic connective tissue. It is alone and supreme. Neither blood, flesh, nerve, nor bone overshadows its regal unity." We are inclined to think in reading this that the author overlooks the fact that his pure cell overshadowing all in its regal unity is too often branded with many an impure feature—it may be with that of syphilis, of cancer, or of struma—a fact unquestionable in some diseases at least—and these the least pure, but a fact quite as undiscoverable

by our lenses as the essential characters of the full-formed cancer cell. We can indeed hope for the development of more perfect means of observation and of analysis, but high-flown sentences will not help us much in attaining our object. The Clinical and Practical chapter is far better than that which precedes it. It gives valuable statistical tables, taken from the records of the Middlesex Hospital, which show the relative frequency of cancer of the breast to that of the other organs and the frequency of the disease at particular ages. The first table re-states the familiar fact that uterus and breast lay claim to more than half the cancers to which the human body is liable, the numbers being respectively 389 and 260 in a total of 1,000 cases. The author explains the exceptionally high number of uterine cases, for in this his table is slightly exceptional, by the statement that "cases of cancer of uterus are admitted into the Middlesex Hospital from probably all the other hospitals in London." The second table also re-establishes the fact that the fifth decade of age contains the greatest number of cases of breast cancer. In the discussion of the prognosis and treatment of cancer of the breast Mr. Nunn displays a curious tendency to raise questions of much practical importance—questions to which definite answers, if clearly given, would be most useful; but he seems content to raise them without furnishing any answer. For example—"Whether the cancer in the spinal cord is a metastasis, or a fresh starting point, or due to a migration of germs, are questions the answers to which are in some measure cleared by the history of individual cases. A case came under my observation where a tumour, assumed to be cancer, disappeared from the breast, and the patient died with cancer of the spinal cord; and cases have occurred within my knowledge where the cancerous breast had been removed, by operation, and where the patient succumbed to spinal mischief years afterwards."

Surely if the author knows any of the facts of the case of metastasis mentioned in this passage he should have given them in greater detail, but we do not find them in the context or elsewhere, even though the greater part of the chapter is taken up with the records of typical cases. Was any fact even of those mentioned proved by *post mortem* examination, or is the diagnosis of metastasis purely imaginary?

Again, on a matter of much higher importance, for we think few will attach much to the author's metastasis—namely, the probability of the non-recurrence of cancer of the breast after operation—the



author closes his rather vague review of well-known opinions with the quotation of the last, and probably the most important, that of Dr. Samuel W. Gross, in the following passage:—

“ Dr. Samuel W. Gross of Philadelphia (*‘ Practical Treatise on Tumours of the Mammary Gland,’* 1880) says (p. 164):—‘ Not only is life prolonged by operation, but the removal of the entire breast along with infected glands that may be discovered, that is to say, thorough operations, results in permanent recovery in 9·05 per cent. of all cases. . . . A radical cure may be assumed if the patient has survived the disease over three years without local or general recurrence after the last operation.’ This is, I think, too favourable an estimate, and cases which I shall quote later will illustrate my meaning.” Yet although one may glean much information from the cases subsequently recorded, we have searched in vain for the facts which displace or modify the statistics of Dr. Gross.

The author goes into minute details of the operation of removal of the breast, opening with the words “ As a preliminary antiseptic proceeding,” and passes on throughout after this saving clause to make as light of Listerism as he can. Indeed, towards the end he lets his prejudice overcome him, and states the fact openly:—“ I have obtained results, as before stated, with sulphurous acid as an antiseptic that could not be surpassed by the most rigid application of any of Professor Lister’s several processes.” Yet if he had taken the trouble to adopt the Listerian practice in its simplest process he might have learned that it was not necessary to lay down a stringent rule for the removal of sutures: “ The moment for the removal of the sutures must be watched for. After the *seventh* day,” &c. Now in ordinary Listerian practice such steadfast orders italicised for the seventh day hold no place, for carbolised sutures take care of themselves, and one of the many great comforts of the practice is the escape from such formal rules of suture removal.

Mr. Nunn describes all the special modes of treating cancer, but always without having the strength of mind to state his conviction, if he has any, as to their value. We can infer that he thinks but little of them, but we fail to find him saying so; for instance, “ On the other hand, from what has come to my knowledge, the electrolytic method of destruction of the tumour does not always succeed in overtaking the advance of the cancerous disease.” We may fairly direct attention to the words “ does not always succeed.” Either they are used ironically—which we cannot assume, for the

author does not show this vein in his constitution—or they are intended to fulfil a lower function, and to suit the whim of any one who may be wishing to try a remedy less efficient even than the plaster of cancer quacks.

Nothing has shaken our confidence in the author's power of discussing the facts which his position has laid at his disposal more than a casual observation which he makes in dealing with the secondary deposits discovered in the *post mortem* examinations of those who die of cancer. Having pointed out the common and grave complications of secondary deposits in the lung, pleura, and axillary lymphatics, he passes on to make this statement:—"The rarity of cancer in the brain stands in marked contrast with the frequent coincidence of fibroid tumours of the uterus."

From this it would appear that the author regards fibroid tumours of the uterus, although not as cancer, yet as a complication secondary to cancer of the breast. But if we look at his table we find these have occurred in one out of every six of the cases recorded. Now this happens to be the normal frequency of such tumours in the average of the bodies of women examined, no matter what they die of. What, then, is the special relation of them to cancer of the breast or to secondary cancer of the brain? Yet in the next chapter the author again reverts to this subject, and asserts that it is "a fact which demands notice."

In the chapter on the "Pathological and Speculative" study of cancer of the breast, from which our last quotation is made, a table and map occur which have not a little exercised our power of comprehension. The map bears the title "Diagram map showing geographical distribution of the place of birth of the cases enumerated in accompanying table as regards England and Wales." The map reveals the remarkable, but very natural, fact that the greater number of patients suffering from cancer, of English or Welsh origin, admitted to the Middlesex Hospital were born in the counties nearest London and in London. What other fact would be more likely? and we may fairly ask for what object has the map been published?

The remainder of the chapter is taken up with a summary of home and foreign opinions on the nature of cancer, carefully abstracted from the various authors.

*Outlines of the Science and Practice of Medicine.* By WILLIAM AITKEN, M.D., F.R.S. Second Edition. London: Charles Griffin & Co. 1882. Pp. 613.

WE are more than doubtful of the genuine usefulness of works of this class. Literary pemmican, represented in this case by the compression of the whole science and practice of medicine into 589 duodecimo pages, is not wholesome intellectual food for the medical student; nor can we agree with the author in his opinion that the book "contains sufficient for the student of medicine to become acquainted with in the course of his curriculum." It may, indeed, be useful to him in "preparing himself for examination;" but he might know every page by heart and not be fit to enter upon practice. Students, however, will not be deterred by considerations of this kind from the use of "outlines" and "digests," and this work has been a success. A large edition was rapidly exhausted, and the work had been for some time out of print. The present edition has had even more matter squeezed into it than the former one, without becoming hypertrophied by means of typographical arrangements. It seems to us that some space might have been gained by the omission of such diseases as syphilis and hydrophobia, which the surgeon claims; and by leaving to the specialists hysteria, diseases of the eye, and diseases of the skin. A work of this kind is not susceptible of review in the ordinary sense; and we propose to utilise it by referring to what may be considered the latest views of the profession upon certain disputed points in medicine. Dr. Aitken's opinions may be taken as fairly representative.

Implicit belief in the potency of bacteria is more common out of the profession than within its ranks; but physicians are not wanting who have eagerly accepted the "germ theory of disease," and debit almost every ill to which flesh is heir "to the growth and activity within the blood and tissues of the human body of these low forms of organic life." It is well to recall to mind the real state of the question, and the facts that "the belief is as yet but a theory of disease, and the point raised is not yet ripe for decision." Certain statements may be accepted as not open to reasonable doubt—viz.: that putrefactive fermentation takes place only in the presence of bacteria germs; that no organisms are spontaneously generated, but that all originate from ova or spores previously existing; that there is some—even strong—evidence for the belief that distinct forms of disease are due to different forms or species of bacteria, bacilli,

or spirilla, as in the instances of splenic fever following inoculation with the *Bacillus anthracis* and typhoid fever of the pig from another bacillus; that "brewers' 'grains,' largely used as food for cattle, afford a soil which is peculiarly favourable for the growth and development of the spore-filaments of *Bacillus*;" that the origin or fatal termination of certain diseases, in which bacteria have been detected in the blood, may reasonably be attributed to the presence of these organisms; and that "septicæmia or pyemia is connected with the presence of swarms of bacteria in the blood," (pp. 57, 58). We shall hear more of these pernicious vegetables further on in connexion with malaria.

Venesection is gone so completely out of fashion that it comes upon us as a surprise to find it noticed at all in an "outline" dated 1882. Dr. Aitken recognises only two cases in which it is justifiable. He would bleed in "extensive acute inflammation of any of the solid organs or serous membranes in young and plethoric persons, otherwise healthy, in whom fever is severe, and of the *inflammatory* or *sthenic* type;" and in "thoracic inflammation when dyspnœa is urgent, even to orthopnœa, with a swollen flushed face, a frequent and violent cough (with scanty or true pneumonic expectoration, aggravating pain extending through or over the chest, if the case is seen within three days of commencement of the illness, presumably prior to fibrinous effusions, or the accumulation of inflammatory products, or new materials of growth, damaging and destroying the inflamed textures," (p. 77.) The list might be enlarged, we think; at least so as to include lightning-stroke and certain cases of cerebral hæmorrhage; and we doubt if many physicians, practising between the tropics at any rate, have recourse to the lancet in their treatment of acute hepatitis. The following warning is scarcely necessary now-a-days when venesection has ceased to be a favourite operation:—"Bloodletting is injurious, and ought never to be practised in cases of debility, of degenerations of tissues, of low types of fever, or when inflammation is associated with, or when it may be the result of a specific morbid poison; and, therefore, in epidemic fevers it is not to be thought of, or in any putrid or septic disease."

There are a few physicians in Europe and in India who hold views on the nature and mode of propagation of Asiatic cholera which are not only opposed to the teachings of the widest experience, but pernicious through their tendency to throw doubt upon the efficacy of preventive measures. We are glad to find Dr.

Aitken's authority enlisted on the side of common sense; and the following passages may be taken as representing the opinions of those Indian physicians who are best qualified to speak on the subject of this fell disease. Cholera is, he says, "a disease which is the result of a specific poison, which reproduces and multiplies itself during the course of the malady. It propagates by *contagia*, given off mainly, if not only, by the stools, in which the poison multiplies even after their discharge; so that the stools become more virulent after they are passed, and in the presence of moisture. . . . It exists at all seasons of the year among human beings inhabiting certain parts of India, which are regarded as the material perennial or endemic area of the disease. Thence it is capable of being disseminated or propagated over the surface of the earth, through the atmosphere or in other ways, but chiefly by means of human intercourse between the healthy and the sick. . . . Malignant cholera does not seem to be contagious in the sense in which small-pox and typhus fever are contagious. But all matters which the patient discharges from the stomach and bowels are infective, and become more infective by certain fermentive processes. They are capable of setting up similar infective properties in other excremental matter with which they may come in contact. Hence, if they find access to drinking-water in wells or reservoirs of water, large volumes of water may be thus contaminated by small quantities of the specific infective and fermentive material," (pp. 152-3).

Modern medicine, as represented by Dr. Aitken, offers but one drug for the treatment of diabetes—namely, "codeia, in one-fourth to one-half grain doses night and morning, in a pill." This is not encouraging; or the dictum that "no two cases of diabetes can be treated exactly alike." The usual dietetic rules are concisely given. The skimmed milk treatment is "damned with faint praise"—it has been "very successful in some cases in the hands of Dr. Donkin," (p. 212). The treatment of hydrophobia is equally or more unsatisfactory. Two or three remedies are suggested "rather to promote euthanasia than to hold out any prospect of cure." "When premonitory symptoms are first observed, the following measures ought to be adopted:—(1.) The original cicatrix should be freely laid open, and suppuration from it as speedily and freely produced and maintained as possible. (2.) The nerves, or nerve, leading to the part are to be divided without delay, the more remote from the wound the better. (3.) Free perspiration should be promoted by

the hot-air bath. (4) Bleeding from the arm to syncope in robust persons with sthenic symptoms, or cuppings on the nape of the neck, are modes of practice indicated by the lesions found after death," (p. 288).

The difficulty often experienced in diagnosing hepatic abscess is by no means exaggerated in the brief notice, occupying only a page and a half, given to this important complication (p. 331). "There may be no symptoms pointing to disease of the liver. The difficulties which embarrass the diagnosis of suppurative hepatitis cannot be over-rated. In 13 per cent. the disease runs a perfectly latent course, and in only 8 per cent. are symptoms at all well marked. In most cases a correct diagnosis will only be arrived at by not relying upon individual symptoms, but by taking a general view of the mode of origin and entire clinical history of the case, and after excluding, by comparison, the diseases of the liver and the neighbouring parts"—to which should be added malarious fevers—"which may give rise to symptoms similar to hepatitis." As to treatment, Dr. Aitken evidently sympathises with the "some" who "think it better to allow an abscess of the liver pointing through the abdominal wall to open of itself." We cannot concur with our author in this view.

The third chapter, consisting of three pages, is devoted to the Nature and Origin of Malaria and Malarious Fevers. We hoped to find here a fuller account of Klebs' and Tommasi-Crudeli's researches on the malarial poison; but the account of them is unsatisfactory, and it is not easy to gather whether Dr. Aitken recognises the *bacillus malarie* as a *vera causa* or not. He does not mention the careful repetition of these gentlemen's experiments in the United States, with negative results. He gives reasons for believing malaria to be a "material poison," but does not notice the only theory, so far as we are aware, which makes it "immaterial"—that, namely, of Dr. Oldham, who attributes malarious fevers to alternations of temperature. We shall conclude with the few lines into which Dr. Aitken condenses the results of the experiments in question.

"They found certain organisms of the genus bacillus in virulent substances, obtained from the soil and from the water, and by cultivation. They found them in the soil of malarious countries in the form of numerous shining ovoid spores, which are in perpetual motion—a special form of bacillus, *Bacillus malaria*—belonging to the class *Aërobii* of Pasteur, in which oxygen is necessary for its development, and that it exists in



liquids rich in nitrogen. The most favourable soil for their development in the animal body seems to be the spleen and marrow of the bones," (p. 105).

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*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M.D., Consulting Physician to the Children's Hospital, and WILLIAM PEPPER, M.D., LL.D., Provost and Professor of Clinical Medicine in the University of Pennsylvania. Seventh Edition, Revised and Enlarged. London: H. K. Lewis. 1882. Pp. 1,055.

NEARLY eleven years ago we reviewed at length in this Journal (Vol. LIII.) the fourth edition of this valuable work. The opinion we then expressed as to its merits has been ratified by frequent subsequent reference to its pages, as well as by the approval it has so widely and so deservedly received. In the present edition the important advances made in our knowledge of diseases of children during the past decade have not been overlooked. But what has stamped former editions of this work with its particular value still remain its chief characteristic. This, to our minds, consists in the general impression the book gives that no statement is made and no opinion put forward in it that is not based upon the personal experience of the authors, acquired as the result of a lengthened period of accurate observation in a wide field of study. For this reason, perhaps, some infantile diseases—*e. g.*, icterus neonatorum—which we might expect would find a place in such a work, are not referred to in it; probably because the authors may not have had sufficient personal knowledge of such conditions as to warrant them, in their opinion, describing them. This, however, far from being a drawback adds to the tone and character of the volume, especially as a trustworthy guide to diagnosis and treatment.

The important subject of food has, in this edition, a separate chapter devoted to it. A portion of this is occupied with the result of careful investigations as to the use of condensed milk as a food for infants. Having shown what condensed milk is, the authors discuss its advantages and disadvantages. They then proceed to point out, by the recital of some very instructive cases, that the use of this milk is not yet regulated, as it ought to be, by a system of rules based on its composition and nutritive value; and that when it is used carelessly and irregularly it may give rise



to dangerous disturbances of health. They do not condemn the use of condensed milk for young children, but they prefer the old-fashioned mode of using fresh milk when it can be obtained good. It seems to them impossible to make use of condensed milk when the child comes to the age—the second year—at which pure milk may be used with safety and propriety. The authors have calculated that one heaped teaspoonful, or, better still, two teaspoons, even full (about 600 grains), in six tablespoonfuls of water, is the proportion which has seemed to answer best in the hands of those who use condensed milk most. To make it much weaker than this would, they say, certainly tend to starve the child. Even in this proportion the amount of milk-solids is insufficient for children over three or four months old; and they suspect, indeed, that children who are brought up on it live largely on the cane-sugar which it contains.

The article upon "Thrush" contains much new matter. The authors believe the disease to be a constitutional state in which the local symptom from which the disease has derived its English name, is merely one of the phenomena of a deep and widespread perversion of the general health. In the vast majority of cases the real cause of thrush is the attempt to bring up the child on other than its natural food. It is the rarest possible thing for a suckled child to have the disease. The authors offer the suggestion that a deficiency of water in the food may have an effect in producing the disease. They contend that during life, and after death, there is constant evidence, which they adduce, that the body in this disease is too dry. If such be the case, it has an important bearing upon the preparation of artificial food for children, and the authors express their belief that a chief error in thus feeding children is that too little water is given to the infant for its active physiological tissue metamorphosis. Therefore the use of pure (undiluted) cows' milk, at least for new-born infants and those under two or three months is, in their opinion, a dangerous practice. One of the best local applications in cases of thrush is a solution of nitrate of silver—half a grain or a grain to the ounce.

The section on Skin Diseases has been largely re-written. The classification adopted by the American Dermatological Association is followed, and a very clear and useful account is given of the most frequent and important cutaneous diseases in children, and their treatment.

We can but repeat what we said of the work before—that as a

text-book and general guide to practitioners, as well as a standard work of reference on the subjects of which it treats, we know of no other volume that contains more useful or reliable information.

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*Nitro-Glycerine as a Remedy for Angina Pectoris.* By WILLIAM MURRELL, M.D., M.R.C.P.; Lecturer on Materia Medica and Therapeutics at the Westminster Hospital; Senior Assistant Physician to the Royal Hospital for Diseases of the Chest. London: H. K. Lewis. 1882. Pp. 78.

IN this *brochure* Dr. Murrell, who may fairly claim the credit of having re-introduced the use of nitro-glycerine into practice, gives a description of the drug and of its employment in cases of angina pectoris. As is generally known, there is a great general similarity between the action of nitro-glycerine and nitrite of amyl. The influence of the latter, however, on the system is manifested almost immediately after its administration, and its effects are extremely transitory. Nitro-glycerine, on the other hand, produces its effects much more slowly, they last longer, and disappear gradually. This difference is well represented, as Dr. Murrell shows graphically, by a comparison of sphygmographic tracings of the pulse under the influence of the two agents respectively. Both cause marked diastolic and accelerate the rapidity of the heart's action. In the case of nitrite of amyl these effects are produced in from fifteen to twenty seconds after an inhalation, or a dose has been taken on sugar; and a tracing taken a minute and a half after the exhibition of the drug is perfectly normal. Nitro-glycerine is slower and more lasting in its power of producing a diastolic form of pulse-beat. It is this effect of the remedy which renders its administration preferable to that of nitrite of amyl in so many instances. Notes of several such cases are given by Dr. Murrell, showing not only the efficacy of the drug in staving off attacks—which it did, more or less, even in the cases candidly reported by Dr. Murrell as unsuccessful—but even in completely and permanently relieving some of his patients from their terrible suffering.

There appears to be a considerable difference among people as to their susceptibility to the action of nitro-glycerine. No definite rule can be laid down as to the dose. "Delicate young women are undoubtedly more susceptible to the action of the drug than other people." Dr. Murrell considers one minim of a one per

cent. alcoholic solution a safe dose to begin with. But the object is not to give a certain dose, but to get the physiological action of the drug. Therefore, although it is a good plan to begin with even a half-drop dose, there is no reason why it should not be rapidly increased, and tolerance is soon established.

The medicine should always be carried by persons who are afflicted with angina pectoris, either in solution or in the form of tablets (Martindale) or of pills (Parke, Davis, & Co.), as there is, of course, no knowing when an attack may come on.

Dr. Murrell generally orders a dose to be taken every three hours, with an extra dose immediately at the onset of an attack. When the attacks are severe it may be necessary to give dose after dose in quick succession, until relief is obtained. We can corroborate the statement that the existence of cardiac disease is no disability to its use.

*A Manual of Obstetrics.* By A. F. KING, M.D. London: Henry Kimpton. 8vo. Pp. 325.

THE chief purpose of this book is to present in an easily intelligible form such an outline of the rudiments and essentials of obstetric science as may constitute a good groundwork for the student at the beginning of his obstetric studies. This object the little work is admirably adapted to fulfil. It contains an immense amount of information in a condensed form, but conveyed in such a clear and agreeable manner as to be very readable. The publisher has done much to render the work attractive by good type and paper, and we doubt not that it will prove useful not only to students but to busy practitioners also.

*Contributions to Practical Gynæcology.* By S. JAMES DONALDSON, M.D. Illustrated. *Part I.—Practical Observations upon Uterine Deflexions. Part II.—Practical Observations upon Dysmenorrhœa.* New York: Throw's Printing Co. 1882. Pp. 131.

DR. DONALDSON is one of many gynæcologists possessed of mechanical skill and ingenuity, which he has devoted to the modification of pessaries. Not willing, however, that his discoveries should perish with him, he has written two essays, which he submitted to the New York Medico-Chirurgical Society in

April and May of the present year. The favourable criticism of his professional brethren has encouraged him to publish them in book form. We fear, however, that the judgment of these gentlemen must have been biassed by the following flattering observations which we take from the commencement of the first essay:—  
 “Throughout the world America is known as the ‘Paradise of Women,’ and gallantly have we merited this compliment through our fealty to the sex; for, as a nation, we are pre-eminently watchful and zealous in our efforts to protect their rights and comforts. No other country abounds in such luxurious homes, or so completely guarantees and encourages equal education and freedom of the sex; nevertheless there exists, with all these privileges, a greater percentage of diseased women in this country than in any other. This condition cannot reasonably be charged to the medical men, *for it is everywhere conceded that with American physicians has originated every improvement, operative or otherwise, worthy of confidence during the last fifty years*, and the eyes of the gynæcological world are turned hitherward for all that is progressive in this department.”

His first object is to prove that “physicians, as a body, have a decidedly faulty idea of the relative positions which the female pelvic organs occupy to each other and to the body,” and, as a result, “that for years we have been striving to accomplish impossibilities by the use of absurd appliances.” “The parties who are really culpable in this matter are the teachers who, through ignorance or indifference, have inculcated erroneous ideas by incorrect assertions, or through the use of ridiculous diagrams.” Having severely criticised some diagrams, selected from Thomas’s well-known handbook, our author invites us, under his tuition, to sketch a normal female trunk. “With the aid of a pair of finely-adjusted draughtsman’s calipers, and a fair knowledge of gynæcological anatomy, we will experience little difficulty in obtaining a much more accurate diagram than is to be found in our text-books.” A woodcut shows the result. “The hours spent in draughting this plate, now before us, were,” he tells us, “the most instructive of my medical life, and were to me a source of interest and revelation;” and so they might well be, for in this plate the “home of the uterus” is depicted as situated behind the axis of the pelvic inlet and sheltered by the protecting arch of the sacrum. This position is evidently due to the condition of the urinary bladder, which is represented as not only distended with urine, but as

having walls more than half an inch in thickness. We believe that the act of micturition would considerably alter the position of the uterus and our author's ideas as to the limits of "its home."

Since Dr. Donaldson's ideas, as to the normal position of the uterus, are so completely at variance with those generally entertained, we do not wonder that he condemns, wholesale, the pessaries ordinarily employed, which he terms "strange productions;" "twisted absurdities;" "vile contrivances, which are a dark stain upon the history of gynæcology;" "right properly designated the inventions of the devil."

We are, however, disappointed to find that, after all, he has nothing more novel to offer us than modifications of Cutter's loop, Studley's combination, and Simpson's galvanic stem pessaries.

We need not further dilate upon our author's eccentricities, but we cannot omit to mention the following clinical experience:—"I have had patients," he says, "whose uteri would retain their normal position so long as a happy mental state was maintained, but with the occurrence of grief would recur the displacement."

*Transactions of the Medical Society of the State of Pennsylvania.*

Vol. XIII. Part II. Philadelphia: Collins. 1882.

WE have received voluminous reports of Transactions and Proceedings of several of the most prominent medical and surgical societies of America, all of which bear ample proof of the energy and determination with which our American brethren are endeavouring to advance the sister sciences in that country:

The thirteenth volume of "The Transactions of the Medical Society of Pennsylvania" is replete with interesting and instructive matter, including papers and communications upon almost every subject connected with medicine and surgery. The paper upon "Local Treatment in Pregnancy," by Dr. Jacob Price, deserves some special notice, as the results which appear to have followed his treatment in cases of persistent sickness during pregnancy have been so satisfactory as to excite a reasonable hope that this most distressing condition, which has destroyed the happiness and sacrificed the lives of so many women and children, may, by this method, not only be relieved, but cured in a large number of cases. The adoption of the straight position in putting up fractures of the humerus at the elbow-joint, by Dr. Oscar H. Allis, is worth the consideration of the surgical profession. His

arguments in favour of it, and against the old angular position, have much force, and appear to be supported, practically, by the results which he has obtained in cases which he reports.

The treatment of hydrocele and serous cysts in general by the injection of liquid carbolic acid, by R. J. Lewis, M.D., Surgeon to the Pennsylvania Hospital, is of particular interest just now, when so much stress is laid upon the toxic effects of that substance by those who are opposed to its use in surgery. Dr. Lewis injects as much as a drachm and a half of the crystals of carbolic acid, kept in a liquid state by five per cent. of glycerine, into the cavity of the tunica vaginalis; yet, in nine years, he has not seen any toxic effects from this practice. He believes that the action of strong carbolic acid upon surfaces secreting albuminous fluids is to seal them up, and to this sealing of an absorbing surface he attributes much of its so-called antiseptic properties. This is a new theory as to its action, but one which seems to be supported by the results of practical experience.

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*A Treatise on the Theory and Practice of Medicine.* By JOHN SYER BRISTOWE, M.D. Lond.; F.R.S.; Fellow and formerly Censor of the Royal College of Physicians; Senior Physician to and Joint Lecturer on Medicine at St. Thomas's Hospital, &c. Fourth Edition. London: Smith, Elder, & Co. 1882. 8vo. Pp. 1218.

IN the number of this Journal for June, 1881, we briefly noticed the third edition of Dr. Bristowe's "*Theory and Practice of Medicine.*" The reputation of the work as a reliable text-book is now so firmly established—and this we know from personal experience, being often asked by students whether we would not recommend it to them—that the duty of reviewing the present, the fourth, edition sits lightly upon us.

Both the text and the illustrations have been carefully revised and added to. The volume now runs to more than twelve hundred pages; notwithstanding, its bulkiness is not inconvenient, although we are still of the opinion expressed in reviewing the third edition, that the work might with advantage have been published in two volumes, like its able rival and competitor by Dr. Frederick Roberts.

The chief textual alterations are met with in the chapters on Myxœdema, Parasitic Affections, Diabetes, Reflex Action, Lateral Sclerosis, and the Legal Management of Lunatics.

The principal literary additions relate to Stammering, Ophthalmoplegia interna and externa—names which “have been applied by Mr. [Jonathan] Hutchinson to two groups of cases, the one of which is characterised by progressive and more or less symmetrical paralysis of the internal muscles of the eyes, the other by progressive and more or less symmetrical paralysis of the muscles which move the eyeballs and raised the eyelids”—Acute Ascending Spinal Paralysis, the mitigation or attenuation of Contagia, and Koch’s recent discovery of Bacilli in Tubercle. It is easily seen from this list of alterations that the present edition has been kept well abreast of the advance of medical science in recent years.

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*First Aid to the Injured. Five Ambulance Lectures.* By DR. FRIEDRICH ESMARCH, Professor of Surgery at the University of Kiel. Translated from the German by H. R. H. PRINCESS CHRISTIAN. London: Smith, Elder, & Co. 1882. 8vo. Pp. 100.

IN one hundred pages of excellent print Professor Esmarch’s Ambulance Lectures have been rendered into English in a manner which reflects the greatest credit upon the illustrious translator.

That Professor Esmarch should consider it worth writing and delivering a course of lectures to non-professional classes of both sexes, so exactly upon the lines laid down by the St. John Ambulance Association in England, must be gratifying to those who have worked for the spread of such knowledge as is contained in the book before us.

For the past five years in England, and for the past three years in this country, the work of the St. John Ambulance Association has been rapidly spreading. The object of the Association is to diffuse amongst the population generally such knowledge as may enable them to render suitable aid to the injured whilst waiting for the arrival of skilled assistance, but not in any way to take the place of, or supersede the regular medical man, as some would seem to imagine.

Professor Esmarch, when in London last year, had an opportunity of seeing the working of the Association in England, and on his return to Germany established his “Samaritan School” and “Samaritan Society” on the same lines, and soon gave the world the benefit of the lectures delivered to the classes then formed.

In so short a space as five lectures it is impossible to do more than very briefly indicate the most salient points to be attended to



in rendering first aid to the injured; and if the style is a little more concise than one would wish, the necessities of the case must be the excuse. The rapidly-increasing work of the Association in England has necessitated the use of handbooks to supplement the lectures attended; and, though we do not think that Professor Esmarch's "Lectures" will supersede the use of those published by the late Surgeon-Major Shepherd, A.M.D., or by Dr. Lionel Wetherby, both of which have obtained a well-deserved popularity in these countries, still we have no doubt that the work before us will be gratefully received by all ambulance workers, and read with the interest which its very carefully collected and sifted contents entitle it to.

The admirable manner in which it has been translated into English, avoiding all crude rendering of German idioms, gives it the freshness of an original work; and, while strongly recommending all those who wish to improve their ambulance knowledge to read these "Lectures," we congratulate the royal translator on the success with which she has fulfilled her task, and subjoin the concluding words of her Preface, which show the object of her undertaking:—"Should any of my fellow-countrywomen who may read this little book be brought to see how each one of us, in her own immediate sphere, may render effectual aid to a suffering fellow-creature, then the object which I have had in view in translating these Lectures will have been attained. The satisfaction of being able to render the needed aid to those in pain, and, if possible, being the means of saving a valued life, should more than counterbalance the scruples that some might feel in entering on such a study."

*An Inquiry into the Prevalence of Smallpox in Kilmarnock in the last Century.* By JOHN C. M'VAIL, M.D. A paper read before the Philosophical Society of Glasgow on the 1st February, 1882. Pp. 15.

IN 1705, one Mr. Robert Montgomerie was schoolmaster at Kilmarnock. Endowed with a taste for statistics, rare in his day, he began to keep a register of mortality for his parish. After some years his book was "lost when committed to another hand to keep;" but in 1728 he began again and maintained his record from March 1st of that year until the end of May 1736; and his work

was carried on by two or three successive compilers to March 1st, 1764. The result is an authentic register, for a period of 36 years, of the total annual births in the parish of Kilmarnock, and of the dates of death, names, designations, ages, and fatal diseases, of all who died in the parish. Dr. M'Vail has done well to publish an abstract of this remarkable record, and has supplied the Anti-Vaccination Society with food of a somewhat indigestible kind for thought. The nomenclature and classification of the worthy schoolmaster, and sometimes the orthography, deserve a passing notice before we give the prominent facts brought out by Dr. M'Vail in connexion with smallpox. Thus, 274 deaths are attributed to "bowel-hive;" a scientific term in the last century, a popular name in this, including "most diseases of the stomach and bowels in infancy, and accountable for a very large number of the deaths during teething, and generally under three years of age." "Kinkhost or cincough" slew 116; and "closing"—which puzzled us until our author interpreted it for us as *croup*—106. "Flux" probably included diarrhoea and dysentery, the latter of which, now rarely seen in Kilmarnock, was, in former days, well known. Twenty-nine persons died "suddenly and hastily." The peculiar distribution of "consumption" cases (of which some are registered in the first year of the register and none for 19 years after; while, of a total of 25 deaths, 15 are registered in the last year, 1763-4), is probably attributable to the personal equation of the doctors in the matter of diagnosis. Twenty-one of "gravel," besides two who succumbed to "stone-cutting" in 1728. "Nineteen deaths from 'colic' and 17 from 'tympany' may represent enteritis and peritonitis, and perhaps a few cases of enteric fever." "Cruels" goes with king's evil and scrofula; ileus is probably represented by "stoping." Two deaths are attributed to each of "jaundice, infancy, apoplexy, stone-cutting, grief, inflammation," and one death is registered to each disease of a group of 17, which includes hysteric, gangren, spina ventosa, self-murder, worm fever, universal gout (*i.e.*, acute rheumatism), blebs (interpreted, we think questionably, chicken-pox by Dr. M'Vail), ague, and bowel-ricket (probably severe abdominal pain).

From the figures available for the purpose our author estimates the mean population of Kilmarnock, for the 36 years in question, at 3,350; but to avoid exaggerating the smallpox mortality he takes 4,200 as the basis of his percentages. This gives a total death rate of 24·36 per mille per annum, "fully 1 per 1,000 per

annum above the average of the past twenty-five years." If the population were taken at 3,350 the rate would be 32 per mille.

In the list of causes of death smallpox stands highest but two—"decay" and "age." There can be no doubt as to what smallpox meant; but what may have been included under "decay" is not so easy to determine. It probably covered "nearly all chronic diseases causing emaciation and debility—among which, of course, consumption is the chief." Next comes "age," which "has formed a convenient class for nearly all who lived over 70 years, and for a large number between 60 and 70 years." Smallpox is next in fatality, producing 622 deaths out of 3,860, or 161 per mille. Comparing with this rate of mortality that of the 26 years, in England and Wales, following the introduction of compulsory vaccination, the difference is enormous. The latter was 9·9 per mille. Again in the Kilmarnock period the smallpox death rate per 100,000 per annum was 410; in the English period 20·8 (p. 9).

The disease attacked Kilmarnock in epidemics with an average interval of four years, and the severity of each epidemic nearly corresponded to the length of the preceding interval. In seven of the nine epidemics which occurred in the 36 years, the year's death rate exceeded the birth rate. In 1754–5 the deaths from smallpox exceeded the births by 57. In that year the smallpox mortality was 22·6 per 1,000 living (95 in 4,200). In the year ending May, 1874, the severest epidemic of modern times occurred, in which 141 deaths were registered in a population of 24,000. This rate is 5·8 per 1,000 living. The pre-vaccination epidemic was four times as deadly as the recent one.

Again, it appears from examination of the ages of those who died at Kilmarnock of smallpox that, "on an average, 87 per cent. of those who died in one epidemic had been born since the previous one, that 11 per cent. who died had passed safely through one epidemic, and that only 1 per cent. had lived through more than one outbreak." For instance, of 45 children who died in the 1733 epidemic, 44 were less than 4 years and 8 months old, so that one of the victims only had been alive before the height of the 1728 epidemic. "The disease had to secure its victims almost wholly from the population that had come into existence since its last visitation." "In the 36 years only 3 deaths occurred in people over 20 years of age, one a lad aged 20, another a married woman aged 21, and a third a dragoon aged 26 years," probably a stranger. 116 of every 1,000 born in Kilmarnock died of smallpox before

reaching 5 years of age. In England, of every thousand children born alive, 2·3 may be expected to die of smallpox under that age.

Lastly, the mean age at death of all the Kilmarnock cases was 2·62 years. The mean age in England from 1848 to 1872 was 11·9, though vaccination was not compulsory during the earlier years of that period. In Scotland in 1873–75 the mean age at death was 19·7 years. In England and Wales during seven years, 1872–79 the mean age of the 14,554 persons who died of smallpox was 19·98. A comparison of 2·62 with 11·9, 19·7 or 19·98, shows one advantage, at least, of vaccination—an addition of years to the life of those who do die of smallpox.

We have not noticed all the conclusions which Dr. M'Vail deduces from his examination of the valuable register which has fallen into his hands. We shall conclude with his own summary of results:—

- (1). Smallpox was epidemic in Kilmarnock every  $4\frac{1}{2}$  years.
- (2). Its death-rate per 1,000 per annum was nearly 20 times greater than it now is.
- (3). Its death-rate under 5 years of age was 35 times greater than it now is.
- (4). The mean age at death from smallpox was  $2\frac{1}{2}$  years in the last century, and is now nearly 20 years.
- (5). The death-rate from smallpox in the second half-year of life is now only a fourth of that in the first half-year; while formerly, in the second half-year, it was nearly 5 times as great as in the first half-year.
- (6). The smallpox death rate has improved about 12 times as fast as the death-rate from measles, hooping-cough, and fever.

*St. Thomas's Hospital Reports.* New Series. Edited by Dr. CORY and Mr. FRANCIS MASON. Volume XI. London: Messrs. Churchill. 1882. 8vo. Pp. 407.

AN unaccountable silence seems to have fallen upon the Hospital Staff and the other contributors to this excellent series of Reports. Previously one volume was issued each year; but the present one has to do duty for the past two years. Moreover, the papers contributed occupy little more than one-third of its bulk—statistical tables and summaries by the Registrars of the various departments make up the remainder. Amongst the best of the contributions we some "Further Remarks on Anæsthetics," by Mr. Osborn,

Chloroformist to the Hospital. He considers four parts of ether to one of chloroform to be a very useful combination for eye or rectal operations, which require more profound anæsthesia. "The element of danger is more often present in rectal operations. Why, I cannot say; but, undoubtedly, I have had, and others also, more anxiety over the administration of anæsthetics in these cases, whether it arises from the fact that all bloodless operations are dangerous in plethoric individuals, or whether diseases of the bowel are unusually depressing, and that the hyper-sensitiveness of the rectum requires a greater degree of anæsthesia, I am not in a position to say, but the fact remains the same." Mr. Osborn points out that nitrous-oxide gas produces great congestion of the vessels of the face and head, generally shown by the lividity of the countenance, and also occasionally by epistaxis or even hæmoptysis. He would not, therefore, advise that, where the arterial system is diseased, the gas should be administered prior to ether (as is done by Clover's Gas and Ether Inhaler). In illustrating the fact that the inhalation of ether frequently produces exanthematous patches on the face and upper parts of the body, he states that he has known a case to be removed from the operating table under the impression that the patient was suffering from one of the eruptive fevers, and unfit for operation. If there should be any skin eruption present, it is, of course, made more prominent.

In "Jottings from the Surgical Out-patient Room," Mr. Clutton records a case of fracture of the clavicle by muscular action. The patient, a hard-working woman, aged 38, in good health, met with the accident while throwing a heavy carpet over a line.

Dr. Harley's paper on "Fæcal Retention, especially as it affects the Cæcum," is the most remarkable of the lot. He begins with the two following sentences:—

"Constipation is often the forerunner of enteric fever; and so far may be regarded as a factor of that disease.

"I believe I may go even further and state that constipation is occasionally the sole cause of enteric fever."

In support of these somewhat startling propositions, eight cases are clinically detailed, with two *post mortem* examinations. In neither of the latter are Peyer's patches referred to, and no temperature chart is given. In one case a "few rose spots on the trunk" were noticed, but Dr. Harley thinks that a successive crop of rose papules occurs in considerably less than half the cases of

enteric fever. We do not see how any of his eight cases could be regarded as symptomatically identical with enteric fever.

The concluding article is a very well written note, by Mr. William Anderson, on "Congenital Hypertrophy."

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*Aids to Diagnosis. Part III.—What to Ask.* By J. MILNER FOTHERGILL, M.D., M.R.C.P.; Senior Assistant-Physician to the City of London Hospital for Diseases of the Chest; etc. London: Baillière, Tindall and Cox. 1881. Students' Aid Series. Pp. 66.

ALTHOUGH this little work is written in a free-and-easy vulgar style, similar to that mistakingly adopted by many would-be popular teachers with medical students, and is in some places actually coarse and irreverent, it will be found one of the most useful of the series to which it belongs, by helping the student and junior practitioner to put his teaching into practice when brought face to face with disease.

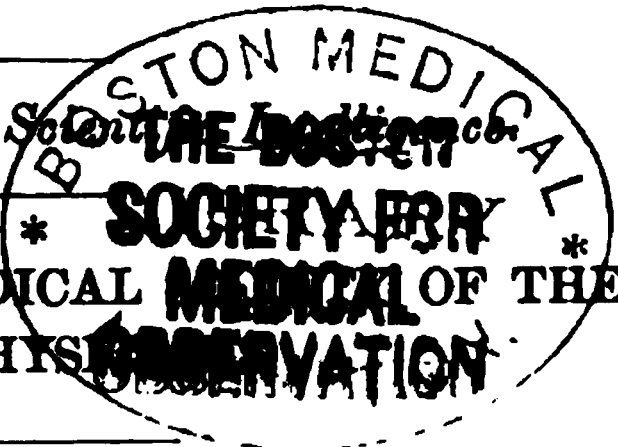
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*The Surgery of the Rectum.* By HENRY SMITH, F.R.C.S. London: J. & A. Churchill, New Burlington-street.

WE have already expressed our approval of these lectures, which were delivered, in 1865, before the Medical Society of London. That the profession has highly valued them is evident from the fact that they have now reached a fifth edition. We are glad to notice that the style of production is better than before—the type and paper now leaving little to be desired in a book of the class. There is a new chapter on Methods of Examination in Diseases of the Rectum, and here and there additions which have been necessary with increased experience. We have only again to commend the book as the work of a good surgeon.

**PART III.**  
**MEDICAL MISCELLANY.**

*Reports, Transactions, and Scientific Proceedings of the*  
**TRANSACTIONS OF THE MEDICAL SOCIETY OF THE**  
**COLLEGE OF PHYSICIANS OF THE**  
**SESSION 1881-82.**



**GEORGE JOHNSTON, M.D., President.**

**ALEXANDER NIXON MONTGOMERY, M.K.Q.C.P., Honorary Secretary.**

*Annual General Meeting, Wednesday, October 25, 1882.*

**F. R. CRUISE, M.D., the newly-appointed Vice-President of the College,**  
**in the Chair.**

*Report of Council.*

**THE Council of the Medical Society of the King and Queen's College of Physicians, Ireland, in presenting their Eighteenth Annual Report, have much pleasure in congratulating the members on the condition of their Society, and on the success which has attended its proceedings during the past Session.**

Nine meetings were held, of which number seven were ordinary meetings, one an adjourned, and one a special meeting. The attendance of members has averaged over eighteen at each meeting.

The following communications were made to the Society during the Session :—

1. Dr. Quinlan exhibited what he considered a specimen of "Hob-nailed Liver," which occurred in a perfectly temperate man.

2. Dr. J. W. Moore, Vice-President of the College of Physicians, exhibited a specimen of Disease of the Pulmonary Valves.

3. Dr. Foot reported a case of Extraordinary Hiccough which lasted for twenty-six weeks ; the patient recovered.

4. Dr. George C. Armstrong (by permission of the Council) made some remarks in reference to a patient whose urine contained alkapton (?). Some of the urine having been exhibited, Dr. Walter G. Smith proceeded



to show the tests for this doubtful substance, and made some remarks in reference to it.

5. Dr. Walter G. Smith—Three Cases of Idiopathic Pericarditis.

6. Dr. J. W. Moore, V.P.C.P.—An Outbreak of Disease traceable to the Drinking of Impure Water.

7. Dr. H. Kennedy—Remarks on Salisbury's Views relating to the Treatment of Phthisis.

8. Dr. A. Benson—Coloboma of the Chorioid and of the Optic Nerve Sheath. Individuals the subjects of each anomaly were in attendance.

9. Dr. Walter G. Smith—On a Peculiarity observed in the Urine of a Patient in Acute Pneumonia, a specimen of the urine being exhibited.

10. Dr. J. W. Moore, V.P.C.P., exhibited a Recent Specimen of *Ascaris Lumbricoides* which had been coughed up by a patient suffering from measles.

11. Dr. J. W. Moore, V.P.C.P., showed some Charts of the Temperature in Cases of Specific Continued Fever, and spoke in reference to them.

12. Dr. J. Magee Finny—A Case of Apparent Recovery from *Morbus Addisonii*; the patient was exhibited.

13. Dr. Walter G. Smith exhibited a man—a patient of his—who was suffering from sensory paralysis of the left side of his body.

14. Dr. C. J. Nixon exhibited two Recent Specimens, the first being one of peritonitis with caseous deposit in the intestines, some of the glands having ulcerated; the other was a case of disease of the heart, with a small aneurism situated in the mitral valve.

15. Dr. E. M. Cosgrave exhibited a Skeleton Respirator, of his own invention, for antiseptic inhalation, and made some descriptive remarks thereon.

16. Brigade-Surgeon Jackson, C.B., exhibited a morbid specimen taken from the body of a soldier who had died of typhoid fever, showing evidence of destructive ulceration of the intestines.

17. Dr. Henry Kennedy—Two Cases of Eczema, both fatal.

18. Dr. Cameron—The hitherto undescribed Bromate and Iodate of Quinine, and their therapeutic properties.

At one of the ordinary meetings, and afterwards at a special meeting held for the purpose, the question of the proposed scheme for amalgamating the existing medical societies of Dublin was discussed, and resolutions were passed approving of such an attempt being made.

Eight new members were elected during the Session. The number of members on the roll at present is ninety-five, but four names will have to be struck off in accordance with Rule VII.

By death the Society has lost six of its members:—Two members of Council, Drs. Hayden and Reuben J. Harvey, and four ordinary members, Sir Edward B. Sinclair, M.D., Drs. Alfred M'Clintock, John Hughes, and Thomas Jackson.

The Council held eleven meetings, eight being ordinary, and three special ones, the attendance of its members being as follows:—

No. of Attendances.		No. of Attendances.	
1. Dr. J. H. Benson . . .	8	8. Dr. H. Kennedy . . .	10
2. Dr. Churchill . . .	9	9. Dr. C. J. Nixon . . .	5
3. Dr. J. Magee Finny . . .	7	10. Dr. W. G. Smith . . .	7
4. Dr. A. W. Foot . . .	2	11. Dr. Purser . . .	6
5. Dr. Gordon . . .	0	12. Dr. Purcell . . .	0
6. Dr. Grimshaw . . .	6	13. Dr. A. Nixon Montgomery, Hon. Sec. and Treasurer	10
7. Brigade-Surgeon Jackson, C.B. . . .	9		

Drs. Purser and Purcell, having been elected to fill the vacancies in the Council caused by death, had consequently only an opportunity of attending nine meetings.

All these gentlemen now retire, but are eligible for re-election. Dr. Fitzpatrick's term of office having expired, the Council propose Dr. Henry Kennedy as Vice-President for the ensuing Session.

In pursuance with Rule XI. the following member has been duly nominated to serve on the Council—Dr. John William Moore.

*Election of Officers and Council for the Session 1882–3.*

A ballot having been taken for the election of Officers and Council, the following were declared elected:—

*Vice-Presidents (2).*

The Vice-President of the College (*ex off.*).  
Henry Kennedy, M.B., F.C.P.

*Council (12).*

1. Benson, J. H., M.D., F.C.P.	7. Grimshaw, T. W., M.D., F.C.P.
2. Churchill, F., F.C.P.	8. Jackson, Brig.-Surg., C.B.
3. Finny, J. M., M.D., F.C.P.	9. Moore, J. W., M.D., F.C.P.
4. Fitzpatrick, T., M.D., Hon. F.C.P.	10. Nixon, C. J., M.B., F.C.P.
5. Foot, A. W., M.D., F.C.P.	11. Purser, J. M., M.D., F.C.P.
6. Gordon, S., M.D., F.C.P.	12. Smith, W. G., M.D., F.C.P.

*Hon. Sec. and Treasurer.*

Alex. Nixon Montgomery, M.C.P.

The meeting then adjourned.

**THE PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF  
DUBLIN.**

**THE BOSTON  
SOCIETY FOR  
MEDICAL  
OBSERVATION**

President—WILLIAM STOKES, M.D., F.R.C.S.I.  
Secretary—E. H. BENNETT, M.D.

*Rupture of the Spleen.*—DR. WINDLE said: By the kindness of Dr. Richardson I am enabled to lay before the Society a ruptured spleen which I removed from the body of a female patient. She arrived one evening last December at the Adelaide Hospital in a cab, accompanied by her daughter, who stated that she had been ill for eight days. She was in a condition of collapse, was vomiting, and was quite unconscious. She got a hypodermic injection of ether, and on recovering from it began to abuse the nurse and everybody about her. Then she sank into a state of coma, from which she emerged at short intervals; and finally she died eight hours after her admission into the hospital. Forty-eight hours after death I made a *post mortem*. I noticed a very large number of blood clots in the omentum, and in the interstices between the coils of the intestines. The gall bladder was in front of the stomach, which is an unusual arrangement. On opening the thorax nothing particular was observed. On placing my hand in the left hypochondriac region, to feel for the spleen, it almost fell into my hands and I removed it entire without the slightest difficulty, or without in the least pulling upon it, or using any violence whatsoever in bringing it away. I noticed that there was a particularly large amount of clotted blood in this region of the abdomen. As the appearances seemed suspicious I asked my friend Mr. Abraham to give me the benefit of his assistance, and continued my examination with his help. On examining the spleen, we found that the substance of it was firm and solid, and that it was very large, having regard to the fact that the woman was between seventy and eighty years of age. Down the convex surface there were several transverse cracks extending a considerable distance into the substance of the organ; and from these hæmorrhage had come. There was nothing particular to be observed about the stomach. I found a considerable number of tubercles in the intestines; and there was a large hard scirrhus mass at the cæcum which so diminished its calibre as only to permit my little finger to pass through it. It was not enough to stop the action of the intestines, but it was sufficient to account for the constipation which I have since heard was a marked feature in the previous history of the case. Neither the lungs nor the heart presented any remarkable feature. The only fact noticed about the brain was that the arachnoid covering the convex surface

was somewhat cloudy. There was nothing to account for death but the rupture of the spleen. There were no marks of external violence. The case subsequently became the subject of a coroner's inquest. It was then discovered that the daughter and the mother were both out of their minds; and the theory suggested to me by Mr. Abraham, and which seems to me the most favourable, was that the daughter had probably at some time knelt on the mother to keep her down in bed, as she was a turbulent old woman, and had thus ruptured her spleen. The old woman and her daughter both imagined that the former had a number of Fenian machines inside her, which were tearing her internal parts to pieces. I suppose the scirrhus mass at the cæcum was the origin of this. The case is interesting both pathologically and also from the point of view of medical jurisprudence.

On opening the uterus three small polypi were seen hanging from the cervix. The mucous membrane was red and congested, presenting a marked contrast to the remainder of the organs of the body which were extremely anæmic. The appearances were extremely like those seen in the uterus of a female who had recently menstruated—a state of affairs which was highly improbable to have occurred in a woman of her age.—*March 25, 1882.*

*Deposit of Ammonio-Magnesian Phosphate in the Knee-joint simulating true Gout.*—DR. BENNETT said: This specimen of deposit on the cartilage of the knee-joint is of a kind which I have not seen before. My attention was first directed to the existence of such in the year 1877, when Dr. M'Donnell, who was then President of this Society, handed to me a letter which he had received from the late Professor Heschl, the Curator of the Pathological Museum of Vienna, and the successor of Rokitansky. The letter shows some curious facts as to the geographical distribution of gout, and as it is short I will read it:—

“VIENNA, 3rd of May, 1877.

“DEAR SIR,

“Will you allow me to offer the following request, inasmuch as it is of a scientific nature.

“Some weeks ago I found in a case of arthritis deformans the articular cartilages of the knee and feet to present here and there glistening points and spots of irregular extension of the disease. They appeared on microscopical examination as round, and also as striped groups of crystalline needles, resembling those which are described, and drawn, as the mixed urates, found in the cartilages, or forming the gout nodes occurring in the true or English gout, but the chemical examination proved them to be not urates but phosphates and carbonates.

“I know no one, amongst our most experienced practitioners of Vienna, who has ever seen the genuine English gout, and there does not exist a preparation of it in our Pathological Museum. Even our practitioners have declared that they did not attach much or any credit to the reports of these urates in gout.

“I certainly do not share such extreme and evidently erroneous opinions, but,

notwithstanding, I wish greatly to see one case of your peculiar gout, and, consequently, I solicit your kind assistance. As the President of one of the most esteemed Societies of medical science, you may perhaps be able to send to our museum a single joint of genuine gout with the nodes of urates deposited around it or in its cartilage. Therefore, I beg you will allow me to ask for such a specimen, which would receive surely the most sincere and cordial thanks of

“Your very and always obedient servant,

“RICH. HESCHL.”

In reply to that letter I sent a specimen of true gout from this Museum to Vienna, and received in acknowledgment from Professor Heschl a statement of his having verified its chemical and microscopical characters as those of the lithates, and as quite distinct from the specimen referred to in his letter. On the articular surfaces before the Society, the deposit, so far as its appearance to the naked eye goes, resembles true gout. In other details of the joint we see well-marked chronic rheumatic arthritis, the arthritis deformans of the Germans. On the ligaments and cartilages of the joints of the tibia and on the semilunar cartilages the deposit is extremely copious and white. I never knew of the existence of phosphates in any articular deposit until these observations of Professor Heschl came under my notice. It will be in the recollection of the Society that I have some years ago demonstrated the occurrence of true gouty deposit in joints which also exhibited the familiar characters of chronic rheumatic arthritis, but such is at once distinguished by chemical and microscopic examination from this phosphatic material. On looking into the matter more closely I find that Professor Redfern, in his paper on the “Abnormal Nutrition of Articular Cartilages,” describes the deposit of carbonate of lime in articular cartilage in a manner however quite different from either gout or the disease before us; he also records the observation of crystalline oxalate of calcium on the surface of rheumatic joints. He says, speaking of the chemistry of these changes:—“Another well-marked chemical action consists in the deposition of a number of masses of carbonate of lime in the very substance of the cartilage, and should it prove that the crystals of oxalate of lime, found on the surface in this case, and in observation II., were formed during life, the mode of production of the oxalic acid will constitute a very interesting and important object of research.” We have then records of oxalate of lime occurring free on the surface of the joints, and in the substance of the cartilage a deposit of the carbonates. Heschl’s observations as to the occurrence of phosphates was evidently quite distinct. Having been familiar with the chemistry of true gout and having examined it repeatedly microscopically and chemically myself, I came to the conclusion that the deposits in the present examples are neither carbonates nor oxalates, but an ammonio-magnesian phosphate, just such as we see in urine, only of very minute crystals. Not relying on my own observations, I submitted the specimens to Professor Reynolds, and I may

state that he has given ample proof that the deposit is in the main crystalline ammonio-magnesian phosphate. It is interesting to note the position of this deposit. In true gout the deposit occurs in crystals in the cartilage cells primarily, and secondarily invades the intercellular tissues of the cartilage. This deposit, like the oxalate of lime deposit of Professor Redfern, occurs not only in a free state on the surfaces, but is intimately worked into the interstices and crevices, but it does not invade the structure of the cartilage. That it is not a *post mortem* production, as might be suggested, is clear, for neither the hip nor the ankle-joint of the limb presented any of these phenomena, nor indeed any of the other points. The body itself was injected with spirit only, so that so far as the introduction of any chemical agencies in the preparation of the body for dissection, there does not seem to have been anything to lead to it. The difficulty I feel is as to the explanation of the origin of the ammonio-magnesian phosphate. No doubt Professor Reynolds says he sees no difficulty in the matter, and that such changes could occur readily where there are albuminous fluids; but where the ammonia is to come from is still to me a mystery.—*March 25, 1882.*

*President's Address.*—MR. STOKES said: I should be sorry to declare this Session of the Pathological Society closed without acknowledging with sincere gratitude the honour paid me by the Council in electing me to the distinguished position of its President. To be appointed to preside over the parent Pathological Society of Great Britain, is an honour one of the most important that can be conferred on any member of our profession, and that I am sensible of having had such a high professional distinction is indeed the truth.

This Society has had, like many similar institutions, its days of prosperity, as well as of adversity. The latter have been, doubtless, the outcome of certain organic changes in the regulations of the Society which did not meet with the approval of a large and influential section of the members, who, consequently, retired from the Society. I am glad to bear my testimony to the praiseworthy readiness with which, on the injurious effects of one, at all events, of those changes being seen, a timely retracement was made. I allude more particularly to the rule that was made in reference to the exclusion of students from our meetings. This I regretted much, as did many others, as it always appeared to me that the privilege of attending these meetings accorded to students of the various hospitals and schools of Dublin, was one fraught with the highest advantages to those who availed themselves of it—advantages which, I may mention, were possessed by no other students in any of the great centres of medical teaching in the United Kingdom. This, I maintain, no matter what may be said to the contrary, is for the student of the Dublin School of Medicine an advantage so great, important, and

unique, that it was to me as much a subject of regret that it was taken from them, as it was subsequently a source of satisfaction that it was restored. A valuable addition too has been made to the restoration of this privilege, for now not only have the students an opportunity of learning the history, and seeing the demonstration of the most interesting examples of morbid anatomy that the hospitals of this city afford, but they have an opportunity of hearing any discussion that may subsequently arise after the demonstration has taken place. The introduction of discussion, a change too long deferred, has beneficially widened and strengthened the foundations of the Society, and I trust, if the Council can see before long their way to the establishment of evening meetings, chiefly to be devoted to special pathological subjects and histology, the highest interests of the Society, and of the science it promotes will be furthered even to a still greater extent.

I cannot avoid alluding to a topic which for some time has been a source of anxious consideration to me and many other members of this Society. Although we may look back with pride on what has been done here as regards advancing pathological science and raising the *prestige* of the school of medicine in Dublin, still one cannot but feel that much more might have been accomplished had a medium for communicating pathological experience, more convenient to the majority of the profession, existed. This remark holds equally good as regards the other professional societies of this city. I feel satisfied that the existing system of having separate societies for medicine, surgery, pathology, and obstetrics, is not one that is likely to be attended with such fruitful results as a combined action on the part of all these societies would be likely to elicit. I believe if they were amalgamated into one Institute or Academy of Medicine, not only would the work done be greater in extent than at present, but it would be more carefully and better done, and a wider sympathy and larger interest in the advancement of scientific medicine and surgery would be created. To the students who would, under certain conditions, be admitted to the meetings the advantages would be simply inestimable.

Should this Academy of Medicine ever come into existence it will be a source of pride and satisfaction to us to reflect that the first step towards the realisation of so great a reform was taken by the Pathological Society, and that it was in fact the basis on which a great National Institute of Medicine was established.

Before ending I may, on my own part as well as on that of the Council, express the great pleasure it has given us to enrol such a large number of new members into the Society as we have done this Session, and also the particular gratification it has been to us to welcome back so many members who for a time left our ranks, but have now returned. Lastly, I have to thank you all for the courtesy and consideration which



have been shown towards me during the meetings of the Society this Session, and to express the earnest hope that the good and lasting work the Society has done in the past, may only be the foreshadowing of greater work in the future.—*March 25, 1882.*

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#### LEAD PARALYSIS.

At the recent annual meeting of the American Neurological Association, Dr. S. G. Webber, of Boston, read a paper on this subject, which was limited to a brief review of the theories of the pathogenesis of lead-paralysis, and secondly, to calling attention to some unusual forms in which lead-poisoning may show itself, simulating more serious lesions. There are two views now most prevalent in regard to the seat of the lesion in lead-paralysis. Some authors consider the central nervous system, the spinal cord and brain, to be the part primarily affected. Another view is that the primary seat of disease is in the nerves. The evidence brought forward by some observers would seem to be conclusive that the paralysis does not depend upon a central lesion; but objection has been raised that it requires only a very limited lesion in the cord to give rise to the symptoms observed, and it is said that the examinations have not been complete. Dr. Webber asserted that as yet we have no proof that the higher centres, as the brain or cord, can cause lesion of different parts of the nervous system, as cord or nerve, without a continuous track of degenerated tissue intervening. He thought, however, that in lead-paralysis the mass of evidence derived from pathological anatomy would show that the disease is primarily a neuritis, unless the origin by separate and independent centres is accepted as the true explanation. The fact that many cases of lead-paralysis recover is also in favour of the peripheral rather than the central origin of the disease. Another fact which he considered important in furtherance of this idea was that in every case in which he had questioned the patient there had been pain, more or less severe, or soreness, or a tingling sensation preceding the motor disturbances. Dr. Webber desired to emphasise the peculiarity that in cases of lead-poisoning there were symptoms present resembling those of myelitis. He thought it very important to examine the urine for lead after the administration of iodide of potassium. In the subsequent discussion Dr. Putnam remarked that he had seen two cases of lead-paralysis that would never have been considered as such, one resembling lateral sclerosis, and the other myelitis *ex anæmiâ*. Dr. Seguin mentioned a case of lead-paralysis in which the symptoms were identical with poliomyelitis. Lead was found in the urine. This was one of a number of cases in which he would defy any neurologist to make a diagnosis between poliomyelitis and lead-paralysis.—*N. Y. Med. News*, July 1, 1882.

**THE SANITARY AND METEOROLOGICAL NOTES.**  
**SOCIETY FOR MEDICAL OBSERVATION**  
 Compiled by J. W. MOORE, M.D., F.R.Q.C.P.

**VITAL STATISTICS**  
*of the Largest Towns in Ireland, for Four Weeks ending Saturday,*  
*October 7, 1882.*

Towns	Population in 1881 (Unre- vised)	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES							Deaths from Phthisis	DEATH-RATE	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		From all causes	From seven Zymotics
Dublin, -	348,293	756	637	152	142	-	5	4	5	11	10	42	91	23·8	2·9
Belfast, -	207,671	492	366	85	45	-	21	15	3	8	4	33	40	22·9	5·3
Cork, -	78,861	159	128	18	84	-	-	1	-	-	2	8	21	20·4	1·8
Limerick, -	38,600	67	92	10	31	-	-	1	1	-	1	5	12	31·0	2·7
Derry, -	28,947	65	52	6	14	-	2	-	1	-	5	1	8	23·4	4·1
Waterford, -	22,401	49	39	8	11	-	-	-	-	-	3	8	4	22·6	6·4
Newry, -	14,782	28	23	6	2	-	-	-	-	3	2	-	4	20·2	4·4
Galway, -	14,621	29	17	1	11	-	-	-	-	-	-	1	-	15·1	0·9

*Remarks..*

The rate of mortality was very high in Limerick, rather high in Dublin, Londonderry, Belfast, and Waterford, moderate in Cork and Newry, very low in Galway. It was 20·3 per 1,000 of the population annually in twenty-eight large English towns, including London, in which it was only 18·8. In the sixteen principal town districts of Ireland it was 22·7 per 1,000 per annum. In Edinburgh it was 18·1, and in Glasgow 22·9 per 1,000. Omitting the deaths of persons admitted into public institutions from localities outside the district, the death-rate within the Dublin Registration District was 23·1, while that within the municipal boundary of Dublin was as high as 26·2.

The death-rate from the seven principal zymotic diseases ranged from 6·4 per 1,000 of the population annually in Waterford, and 5·3 in Belfast, to 1·8 in Cork, and only 0·9 in Galway. In Dublin it was 2·9.

The number of deaths registered in the metropolitan area was 637, compared with 659 and 595 in the two preceding periods. Of these deaths 152 were of children under twelve months and 142 were of persons

upwards of 60 years of age. The mortality amongst very young children shows a decrease and that amongst the aged an increase upon the mortality in these classes of the community in the preceding four weeks. Owing to cool, breezy weather the deaths from diarrhoeal diseases fell considerably—namely, from 62 to 42, and this largely accounts for the lessened mortality in infancy and from zymotic diseases.

These affections were credited with 95 deaths, compared with a ten years' average in the corresponding period of 157·8 and with 111 deaths in the previous four weeks. Measles, scarlet fever, diphtheria (5 deaths) and whooping-cough (11 deaths), all show a slightly increased fatality. Diarrhoeal diseases and continued fever, on the other hand, show a decided decrease. Of the 10 deaths referred to fever, two only were stated to have been caused by typhus, and 8 by typhoid. Fifteen of the 42 patients who succumbed to diarrhoea were infants under one year old.

In Belfast a serious epidemic of measles (21 deaths) continues, and scarlet fever, whooping-cough, and diarrhoeal diseases were prevalent and fatal. The last named group of maladies caused 98 deaths in the eight chief towns of Ireland, against 127, 72; 50, and 29 respectively in the four preceding periods. Typhus was rife in many of the towns.

Pulmonary consumption (phthisis) was very fatal in Dublin (91 deaths); but in Belfast the deaths from this disease fell from 58 to 40.

In Dublin respiratory affections killed 101 individuals, against an average of 80·4 deaths in the ten previous years. The deaths included 70 from bronchitis (average = 52·1), and 19 from pneumonia (average = 11·7). The increased fatality of pneumonia is, therefore, once more becoming a prominent feature in the Bills of Mortality.

On Saturday, October 7; the number of cases of the most important epidemic diseases under treatment in the principal hospitals of Dublin were—smallpox, 0; measles, 2; scarlet fever, 22; typhus, 49; typhoid, 34; and pneumonia, 18.

The mean temperature of the four weeks was 52·2° in Dublin and 58·4° at Greenwich.

#### METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of September, 1882.*

Mean Height of Barometer,	-	-	-	29·872 inches.
Maximal Height of Barometer (at 9 p.m. of 8th),	-	-	-	30·455 „
Minimal Height of Barometer (at 4 a.m. of 2nd),	-	-	-	29·056 „
Mean Dry-bulb Temperature,	-	-	-	52·7°.
Mean Wet-bulb Temperature,	-	-	-	50·8°.
Mean Dew-point Temperature,	-	-	-	48·8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·348 inch.

Mean Humidity, - - - -	-	87·1 per cent.
Highest Temperature in Shade (on 1st), -	-	69·6°.
Lowest Temperature in Shade (on 14th), -	-	39·0°.
Lowest Temperature on Grass (Radiation) (on 30th),		34·1°.
Mean Amount of Cloud, - - -	-	62·4 per cent.
Rainfall (on 15 days), - - -	-	2·619 inches.
Greatest Daily Rainfall (on 24th), -	-	·831 inch.
General Directions of Wind, - -		N.W., W., & S.W.

*Remarks.*

Cold and changeable; north-westerly winds unusually prevalent, and occasional heavy falls of rain. The mean temperature was 3° below the average of the previous seventeen years; the rainfall (2·619 inches) was somewhat above the average (2·254 inches), and the rainy days were 15 compared with an average of 14·4. During the 1st and 2nd the weather was kept unsettled by a deep atmospherical depression, which travelled across Scotland towards E.N.E. Even in Dublin the barometer was as low as 29·056 inches at 4 a.m. of the 2nd. As this disturbance passed away, an area of high pressure advanced over Ireland from the Atlantic, accompanied with cool, bright, dry weather. From the 5th to the 9th an anticyclone lay over Ireland and England, and, owing to the calm state of the air, the nights were sharp at inland stations. During the week beginning on Sunday, the 10th, the weather was very unsettled, and unusually cold and showery. Atmospherical pressure was throughout relatively high in Scandinavia and over the Baltic, where the weather was chiefly warm and summer-like, while several rather shallow depressions were found in the neighbourhood of the British Isles and France. At 8 a.m. of the 11th, not less than five areas of relatively low pressure were observed. One of these systems travelled slowly northwards from the S. of France between the 11th and 14th, and then began to move westwards. On the 12th, at night, vivid lightning was seen to S. and S.E. of Dublin, and during the two following days thunder and hail storms were felt in many places, particularly in the centre, S., and S.E. of England. Large hail fell at Bray and in many parts of Ireland on Wednesday, the 13th. After the 15th the weather improved greatly in Ireland, but rains of extraordinary violence prevailed in Northern Italy and in France, while even in England a considerable rainfall was observed. There can be no doubt that unusual cold over the Atlantic and in Great Britain and Ireland, at a time when temperature was high in Northern Europe, contributed to this result. More than 8 inches of rain fell in Paris on the 20th. In Ireland the weather again broke on the 24th, when a small depression, passing northwards, caused a downpour of rain in Leinster and Ulster. On the 26th a similar depression travelled in the same direction across these

provinces, causing heavy rain, while the weather was comparatively fine in the West of Ireland. The last few days were fine, with low night temperatures. In Dublin, thunder was heard on the 13th; lightning was seen on the 12th and 13th. Hail fell on the 13th. The air was foggy on the 7th and 9th. Solar halos were visible on the 8th, 17th, 25th, and 27th, and a lunar halo appeared on the 25th. Bright aurora was seen in the North of Scotland on the night of the 18th.

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## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### DAVY'S RECTAL ARTERY COMPRESSOR.

THE London special correspondent of the *New York Medical News* (July 8, 1882) refers to a fatal accident with this instrument in the hands of its originator, at an operation at which he assisted. The patient was a man of middle age, on whom an operation for ununited fracture high up in the shaft of the femur had been performed, without success, and amputation of the limb was determined on. Mr. Davy was requested to use his lever. This he did, first of all passing up an injection of olive oil, then the flexible sheath, and lastly the wooden lever. There was no difficulty experienced in all this, but it was found necessary to raise the handle of the lever more than is usually the case before all pulsation in the femoral artery ceased. The vessel was completely controlled; absolutely no arterial blood was lost; and at the close of the operation all congratulated themselves on the success of the lever. The patient progressed favourably for twenty-four hours. Symptoms of peritonitis then made their appearance, and the man rapidly sank and died. At the autopsy the usual signs of peritonitis were found, and the cause was detected in a perforation of the rectum just seven inches from the anus. The rectum elsewhere appeared healthy; there was no sign of ulceration about the perforation, and there can be no reasonable doubt but that it was produced by the end of the lever. It was the right common iliac artery that was compressed. The correspondent further remarks that it is commonly stated that the same thing has occurred in the practice of an eminent surgeon in one of the large northern towns, but the case has not yet been published. Mr. Davy had no suspicion at the time of the operation, that anything had gone wrong. The only other mishap with the lever that the correspondent is aware of is the impossibility of passing it sufficiently high up the rectum. This once happened to himself. After an oil injection, and using all the force he considered safe, he quite failed to pass the

lever more than four inches. After the death of the patient a sharp bend of the rectum was found, which rendered it impossible to pass the lever, even on the *post mortem* table. Although a warm supporter of the lever hitherto, he now feels that its use must be abandoned. He thinks that it is now demonstrated that at any rate for compressing the *right* common iliac artery it is *dangerous to life*. Whether it may be safely used in all cases for compression of the *left* artery, is another question.

#### ON THE RELATION BETWEEN SYPHILIS AND TABES DORSALIS.

DR. PUSINELLI (*Archiv f. Psych., u. s. w.* xii. 8) found in fifty-one cases of tabes that sixteen were affected with, or gave a history of, syphilis. He concludes from the irregular relations existing between the two diseases respecting succession in time and the severity of the phenomena, that there is the possibility of an alternating action dependent on both diseases, in which, on the one hand, with an existing predisposition to tabes, syphilis would act as an additional factor in the development of tabes; while, on the other hand, the saturation of the system with syphilitic poison may act as a predisposing cause of tabes, particularly when combined with other injurious influences tending to produce tabes. The facts of pathological anatomy fail to decide the question whether there is alone degeneration of the posterior columns dependent on syphilis, and the therapeutical facts of his cases furnish no indication of a connexion between tabes and syphilis; for anti-syphilitic treatment in numerous cases was of doubtful effect, and in one case mercurial inunctions resulted injuriously. He concludes that while statistics lead to the suspicion of a connexion between the two diseases, all proof of such a connexion is still absent. [NOTE.—In the same number of the *Archives of Dermatology*—that for July, 1882—as that from which the above is taken, are two other extracts bearing upon the above subject. Prof. Leyden, of Berlin, in answer to the question—“To what extent is syphilis the cause of tabes, and what are the results of an anti-syphilitic treatment of the latter?” expresses his views as follows:—“Although I willingly acknowledge that the theory of syphilitic tabes numbers among its adherents names of good scientific repute, yet I must declaim most decidedly against this theory, and refuse to recognise an ætiological connexion between syphilis and tabes.” He concludes (1) that the statistical relations of the question proves absolutely nothing; (2) that the anti-syphilitic treatment of tabes furnishes nothing; and (3) as Lancereaux in particular has emphasised, that the pathological anatomy of tabes is entirely different from that of the syphilitic process. Dr. Buzzard, also, writing on the association of tabes dorsalis with syphilis (*Lancet*, June 10, 1882, p. 391), says that although there is a remarkable frequency of association between the two diseases he does not think that the time has yet arrived to draw safe inferences as to the precise nature of their rela-

tions. In his experience he has never known a cure to result from specific measures. On the other hand, Fournier in a paper in the *Ann. de Derm. et de Syph.*, Nos. 1 and 2, 1882, quoted in the *London Med. Record* for August, sums up his views on the subject as follows:—1. The existence of tabes of syphilitic origin is incontestable. 2. In the great majority of cases of tabes, syphilis is the cause of the disease. These views are based on the following considerations:—*a.* The striking frequency of syphilitic antecedents in those who suffer from tabes. *b.* The almost exclusive development of tabes in the tertiary period of syphilis. For example, of 85 cases of tabes in syphilitic persons, the author found that the spinal affection began later than the fourth year after contagion in 81. *c.* The frequent association of tabetic symptoms with others which are particularly common in syphilis; for instance, paralysis of cranial nerves, hemiplegia, apoplectic seizures, epileptiform attacks, aphasia, various intellectual disturbances, the complex symptoms known under the name of “general pseudo-paralysis,” and the frequent connexion of tabes with progressive general paralysis. *d.* The influence of specific treatment. *e.* The co-existence of undoubted syphilitic manifestations on other parts of the body. *f.* The frequent impossibility of discovering any other cause than syphilis in cases of tabes.—ED. PERISCOPE.]

#### SUDDEN DEATH DURING AN ATTACK OF HEPATIC COLIC.

M. BROUARDEL relates, in the *Ann. d'Hygiène Publique et de Méd. Légale*, a case which is interesting from several points of view. A young woman, aged thirty years, in good health, after a quick walk, at the moment of getting into a railway-carriage, drank a glass of gooseberry syrup and seltzer water, and, some moments afterwards, was taken in the carriage with extremely violent pains in the abdomen. When arrived at her destination she could not get so far as her home, and went into a hotel, where a physican, who was called in, diagnosed hepatic colic, announcing that the symptoms would probably not last long. Notwithstanding this opinion, after alternate attacks of pain and quietness, the patient died suddenly in the night, ten hours after the first symptoms were felt. In consequence of the abnormal circumstances, a judicial necropsy was made five days after death. M. Brouardel found only a very small calculus in the common bile duct, sixty-one calculi in the bladder, considerable submucous oedema in the duodenum and in the jejunum, and hæmorrhage uniformly infiltrating the parenchyma of the pancreas. Chemical analysis likewise demonstrated that there was no question of poisoning, as some persons had thought possible. Death in this case was, therefore, attributed to hepatic colic. Facts of this kind are very rare, and little known, although nearly all writers seem to anticipate the possibility of this sudden termination. M. Charcot, noting the constant lowering of the pulse in hepatic colic, attributed it not to the violence of the pain, which is



frequently not excessive, but to a reflex action, induced by the irritation of the semilunar ganglion, and conveyed to the pneumogastric. The slackening of the pulse may thus go on to mortal syncope. Nevertheless, cases of sudden and rapid death, without perforation or sudden complications, are very rare. Portal reports two cases in which the patients died in the midst of a violent hepatic colic. Curry and Boudet report two analogous facts. M. Durand-Fardel reports a similar result in an old woman; finally, M. Charcot reports a case taken from the *Med. Times* in which a woman, aged thirty-three years, who had had several attacks of colic and syncope, died sixteen days after the commencement of the attack. These facts comprise nearly all those of the kind related in medical literature. They differ in certain respects from those of M. Brouardel, both clinically and anatomically, but, from the medico-legal aspect, it is interesting to call attention to a cause of sudden death which is up to the present but little recognised.—*Lond. Med. Rec.*, August, 1882.

#### THE CONTAGIOUSNESS OF PUERPERAL PERITONITIS.

IN a paper by Dr. Hugo Engel, in the *Boston Med. and Surg. Jour.*, of September 14th, he states that it has been observed by Karewski (*Zeitsch. f. Geb. und Gyn.*, 1882, p. 331) that the lochial discharge is a fluid in which bacteria especially thrive; that a drop of it exposed to the air outside the vagina for a very short time is immediately infected and soon alive with them, and that they very rapidly propagate themselves, and keep their vitality a long time, even under adverse circumstances. Some lochial discharge, free from bacteria, was kept under aseptic precautions. Repeated examinations proved its continued aseptic condition. Karewski then examined with his finger the sexual organs of a woman suffering from puerperal fever, which ended fatally. A pure culture-fluid in which he dipped this finger became full of bacteria. After two weeks, having washed his hands frequently during all that time, and in the usual manner, with soap and water, he brought the same finger in contact with a part of the lochial discharge, and then cleaned the finger thoroughly with a ten per cent. solution of carbolic acid. After having washed the latter off again a number of times he brought it in contact the next day with the other half of the aseptic lochial discharge. In a week the first lochia were full of the same bacteria, their development being rapid; the second half was still an aseptic fluid, both having been protected in the usual careful manner against the influence of the atmosphere. Can we wonder why puerperal fever, if once broken out in a hospital, spreads so rapidly, and that it is sometimes best to tear such a building down? Do Karewski's observations not explain why physicians sometimes have remarkably bad luck with the women they deliver, one after the other dying in succession of the same puerperal fever? Does it surprise us that since the more

general introduction of aseptic procedures we hear less of puerperal fevers? Is a physician not criminally neglectful who does not use all possible antiseptic precautions when delivering a woman? Those old physicians are right who contended that such women pass with the greatest safety over their confinement in whom the natural delivery has least been meddled with, and who have, as concerns the sexual organs and their manual examination, been left alone. Why are cases more dangerous and more frequently followed by puerperal fever in which the forceps have been used, even if only to accelerate the passage of the head through the vulva in a normal birth? How many of these instruments are kept strictly aseptic or are made so immediately before their use?

#### HOW TO MAKE A POULTICE.

EVERY one knows the relief which a poultice affords when the finger is inflamed, and has noticed how the painful throbbing diminishes after its application. Most people have noticed also that dipping the finger in cold water has a similar action, and it seems strange to many that the opposite conditions of heat and cold should have a similar effect. The reason probably is that both heat and cold lessen the force of the impulse with which the blood is driven through the dilated arteries of the inflamed parts against the block which exists in the capillaries. Cold causes the afferent arteries to contract, and lessens the impact of the blood by diminishing the quantity sent to the inflamed part; a poultice lessens the impact by dilating the capillaries surrounding the seat of inflammation and affording a ready side outlet into the veins. In surgical cases we usually use the warmth and moisture of the poultice to act directly on the surface. We therefore make the poultice with crushed linseed or with linseed-meal and oil, spread it on some tow and apply it to the skin without anything intervening. But useful though this method may be for wounds, ulcers, and abscesses, it is not the best form of application in cases of inflammation of the thoracic or abdominal viscera, or where spasm is present without inflammation. In such cases we may, no doubt, do some good by applying the poultice to the surface exactly as in surgical diseases. We may draw off some of the blood to the surface; and we may also exercise a reflex action through the nerves upon the vessels of the inflamed organ below, but this will not be so great if we influence the surface only, as when we allow the heat to penetrate to the inflamed or irritated organs themselves. If we apply the poultice directly to the skin it must be allowed to become tolerably cool before the patient can bear it, and thus half its advantage is lost. In order to relieve spasm, as in colic—intestinal, biliary, or renal; to relieve inflammation of the pleura, the lungs, the liver, or other organs, we want to apply the poultice as hot as possible, while we protect the skin from being scalded. In order to do this, a flannel bag should be

prepared, a convenient size being twelve inches by eight; this should be closed at three edges and open at the fourth; one side of it should be about one inch or one inch and a half longer than the other, and it is convenient also to have four tapes attached at the points which form the corners when the bag is closed, in order to keep the poultice in position. Besides this, another strip of flannel should be prepared of the same breadth as the length of the bag, and long enough to wrap round it once or oftener. Crushed linseed, bowl and spoon should then be got together, and the spoon and bowl thoroughly heated by means of boiling water; the poultice should then be made with perfectly boiling water, and rather soft. As soon as it is ready, it should be poured into the bag, previously warmed by holding it before the fire; the flap which is formed by the longest side of the bag should now be turned down and fastened in its place by a few long stitches with a needle and thread, it should then be quickly wrapped in the strip of flannel (also previously warmed), and fastened *in situ*, if necessary, by means of the tapes. It may be covered outside with a sheet of cotton wool. In this way the poultice may be applied boiling hot to the skin without burning; the two layers of flannel which are at first dry allow the heat to pass very gradually indeed to the skin; as the moisture of the poultice soaks through them, they become better conductors, and the heat passes more quickly, but the increase is so gradual as not to cause any painful sensations whatever, but only one of soothing and comfort. The poultice also naturally keeps much longer hot, and the necessity for changing it arises much less frequently. The difference between the effect of a poultice made in the ordinary way, and in the manner just described, is sometimes exceedingly striking. It is, perhaps, less marked in cases of inflammation than in those of spasm. We have seen a patient suffering from intense abdominal pain at once relieved by a poultice made in the way just described, although a succession of poultices made in the ordinary way had been utterly useless. This way of making poultices is one of the minutiae of medical practice; apparently extremely trivial, but really, we believe, very important. The relief which we have seen afforded by poultices made in this way, and the knowledge that *some* practitioners at least are ignorant of the method, must be our apology for drawing attention to such a trivial detail.—Editor of the *Practitioner*, Oct., 1882.

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OF

## MEDICAL SCIENCE.

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# THE DUBLIN JOURNAL

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## MEDICAL SCIENCE.

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PART I.

THE BOSTON  
SOCIETY FOR  
MEDICAL  
OBSERVATION

### ORIGINAL COMMUNICATIONS.

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ART. XV.—*The Germ Theory.*\* By KENDAL FRANKS, M.D.,  
Univ. Dub.; Ex-Sch. Trin. Coll. Dub.; Fellow of the Royal  
College of Surgeons, Ireland; Fellow of the Academy of Medi-  
cine of Ireland; Surgeon to the Adelaide Hospital; Surgeon to  
the Throat and Ear Hospital.

PRE-EMINENT among the rapid strides which medicine and surgery have lately made—progress which will mark the nineteenth century as the most eventful in their history—we find a discovery which has done much to revolutionise both branches of our profession, and one which promises to show us that, far as we have gone, we are still but on the threshold, still but as children playing on the beach with pebbles, and standing on the shore of an unknown and boundless ocean.

I allude to the germ theory. The term does not convey our present state of knowledge correctly. The term “theory” would seem to imply that we are now furnished with an explanation of certain changes which occur in organic nature, which is theoretically sound. At one time the fact that the earth was round, and revolved upon its own axis in twenty-four hours, was accepted only as a “theory,” which was one way of explaining the phenomena of night and day. This is no longer a theory, and like it the germ theory has been established by incontrovertible evidence to be a fact.

\* Part of an Inaugural Address, delivered in the Theatre of the Adelaide Hospital, introductory to the Session 1882-83.

Hostile critics have brought every refinement of scientific research to bear upon it, but it stood the trial, whether of experiment, or of the microscope, or of the electric beam, and has emerged from the ordeal no longer a theory but an established fact.

In medicine it is now almost universally accepted. Fevers are no longer looked upon as smouldering fires that burn up the system, or as humours devouring the frame, but we now know that they are the result of a living poison that has been sown in the system somehow, that this poison has grown and multiplied during the stage which is known as the stage of incubation, until it has poisoned the whole being. Each fever is produced by its own poison; and wherever that poison is sown and develops, there it produces its inevitable consequences. "As surely," says Professor Tyndall, "as a thistle rises from a thistle seed, as surely as the fig comes from the fig, the grape from the grape, the thorn from the thorn, so surely will the typhoid virus increase and multiply into typhoid fever, the scarlatina virus into scarlatina, the small-pox virus into small-pox. What is the conclusion that suggests itself here? It is this—that the thing which we vaguely call a virus, is to all intents and purposes a seed."

The application of this theory to surgery is one of the most burning questions of the day, and one of the most important. You see, day by day, both in this theatre and in the wards, the germ theory guiding our practice, and my present object is to show that this practice is not empirical. The germ theory maintains that in the surgical treatment of wounds, putrefaction is to be avoided by keeping the wounds free from living organisms. As these organisms are stated to act as local or general poisons, the method by which they are excluded is called the *antiseptic method*.

I hope to show that this principle is sound, because it is founded on facts; that every step in the theory is proved to demonstration, and that, to deny the soundness of the principle itself, is as inconsistent with common intelligence as it would be in the present day to deny the law of gravity among the heavenly bodies. I do not say that "the antiseptic method according to Lister" is thus beyond all criticism. This is only one of the methods of putting the antiseptic treatment of wounds in practice. It is the one most generally adopted, because it provides in the most thorough way known at present against the possible entrance of septic germs into wounds; and I unhesitatingly affirm that it is *the* method of all others which gives the desired results, provided that it be



thoroughly carried out. "To apply the antiseptic treatment with success," says Professor Lister, "the surgeon must be interpenetrated with the conviction that the germ theory of putrefaction is true."

It is acknowledged on all sides that what we call putrefaction is nothing more nor less than a form of fermentation. It is scarcely necessary to remind you that fermentation was employed in the manufacture of wine as early as the days of Noah. Tyndall informs us that beer was described as the "wine of barley" nearly four hundred years before Christ. Fermentation has thus been made use of for centuries, but the manner in which the process occurred was ever a mystery; "putrefying sores" are stamped with the antiquity of Holy Writ, yet the agencies at work in producing putrefaction in wounds remained unrevealed.

Let me describe what takes place in perhaps the best-known instance of fermentation, that employed in the manufacture of beer. "Malt" is prepared by steeping barley in water, draining off the supernatant fluid, and then allowing the moistened seed to germinate by keeping it at a suitable temperature. When this germinated seed is dried it is called malt. This malt is then mashed up in warm water and boiled with hops. The infusion which thus results is drawn off and allowed to cool. The brewer now mixes yeast with this organic fluid, and places it in vessels with only one aperture open to the air. The mixture soon begins to froth and to foam, and this brown foam in a short time pours in abundance from the vessels. Examine a little of it with the microscope. It is yeast. Collect it now and weigh it; you find four or five times the quantity which was originally introduced. This remarkable phenomenon, though observed for ages, remained shrouded in mystery till the year 1835. It was then discovered by Cagniard de la Tour in France, and Schwann in Germany, that the active principle of yeast consisted in a minute plant, which they could see growing and sprouting in the field of the microscope. Here then is an organic fluid, an infusion of malt. Into this fluid the brewer deliberately introduces a certain living organism. This organism, the yeast plant, at once grows, develops, multiplies. It requires sustenance—its food is oxygen. Submerged in the infusion of malt, it can get no nourishment from the air. It falls back upon the organic fluid. It robs it of its oxygen, and to do this it must decompose it. As a result of this decomposition, alcohol and carbonic-acid gas are formed. In other words, fermentation has taken place, and

beer is the result. If no germs of this yeast plant were allowed to find access into this fluid, if they were excluded altogether, this fermentation would not take place. Thus have brewers for centuries been putting the germ theory into practice, without understanding its *modus operandi*.

Now suppose, instead of malt, we take some animal fluid—say an infusion of beef, ordinary beef-tea—and place it in a vessel exposed to the air. In a few days it undergoes certain changes, with which we are all familiar. It has at first been quite clear and odourless; it soon becomes cloudy and muddy, a film forms over the top of it, and then it gradually assumes a most offensive smell—in fact, it putrefies. Take a little of this muddy fluid and examine it under a microscope. We shall find it swarming with small bodies, which move about in the field of the microscope, and if we watch them carefully for some time, we shall see them growing, dividing, and multiplying, giving rise to numerous similar bodies, much in the same way as the yeast plant was observed to grow. In fact, they are living organisms. Whence do they arise? They are always present in decomposing fluids; while if the fluid be protected by certain means, that fluid will remain clear and odourless for any length of time; it will not putrefy. We answer—these organisms find their way into the infusion of beef from outside. Let me shortly indicate the methods of proof by which this assertion is supported.

We have often noticed the effect of a strong sunbeam coming into a room. We have seen the myriads of minute particles dancing in the ray. These motes floating in the air are more readily seen if the sunbeam enter a darkened room through a hole in the shutter. Professor Tyndall employs for this purpose the electric beam. To make it more powerful he condenses it by making it pass through a powerful lens into a darkened chamber. If with such a beam we repeat his experiment, and hold beneath it a spirit lamp, what do we observe? We see “curious wreaths of darkness resembling an intensely black smoke” passing up through the beam of light. Is this blackness smoke? Use instead of a spirit lamp a hot ball of copper, you will see the same result. Hold beneath the beam a flask filled with hot water, currents of blackness will be seen rising through the brightness of the ray. This black vapour cannot, then, be smoke. What is it? It is air which contains no means of scattering the light as it passes through it, and which,

therefore, renders the light invisible. The particles which were seen floating in the beam have been removed or destroyed by the heat. Now, inorganic matter could not be thus burnt out of the air, for it is non-combustible. These floating particles which are revealed by the beam must be organic. Heat has destroyed them. Here is a fact of the first importance, and thus Pasteur accounts for it:—"The dust which we observe on the surface of all bodies is constantly being affected by currents of air, which must take up the lighter particles, amongst which we doubtless find the preference given to organised corpuscles, eggs, or spores, which are generally not so heavy as mineral particles." We see, then, that the air is full of floating particles of matter, that these particles are organic, and that the air can be purified from them by the aid of heat. But the air can be purified of these motes in another way. If the air in a room be undisturbed, if it be kept absolutely at rest, these minute particles will gradually subside and adhere to the floor and sides of the room, and the air will gradually become pure. These are conditions which it would be almost impossible to carry out on a large scale, but that such is a fact is shown in a beautiful experiment by Prof. Tyndall. He gets a large square box, with a glass front. The back and sides, top and bottom, are wooden. Two small glass windows are situated one at each side facing each other. Through these windows he allows a condensed electric beam to pass. The inside of the box is smeared with glycerine. Test tubes are fitted air-tight into holes in the bottom of the box, their open ends being within the box. A pipette passes through the top, by means of which fluids can be introduced when required into the test tubes. The door of the box being closed, the electric light is so arranged that the condensed beam, passing in at one of the side windows, emerges at the window opposite. If you look in through the glass front, its track is seen to be eminently brilliant, and the dust in the air of the box is at once brought into view. Now, this box is allowed to remain at perfect rest for three days. If it be examined during the interval, the beam inside the box will be seen to have faded in its intensity. On the third day, *within* the box it has completely disappeared, whilst *outside* the box it is as bright as ever. The floating particles which were rendered visible by the beam of light, and which, in their turn, rendered the light visible, had vanished. They had subsided and adhered to the glycerine. The air inside the box was "optically pure."

Now, suppose we introduce into the test tubes some infusion of beef, or any other organic fluid. This, from contact with the air outside the box, is contaminated with the dust of the air. We have seen that heat will destroy these motes. To purify it, then, the test tubes containing this fluid are boiled by means of an oil bath. What, then, is the condition of affairs? We have test tubes whose open mouths are exposed to the air inside the box. This air, the electric beam tells us, is free of dust. The test tubes contain an organic fluid which has been boiled so as to destroy all motes which could have made their way into this fluid. Now, mark the result. *The beef infusion will remain clear and pure for months, whilst the same fluid in test tubes exposed to ordinary air will become foul in a few days.* What do we learn from this? Do we not learn that purified air will not cause putrefaction; that the living bodies which we see under the microscope swarming in a putrefying fluid, and which we call bacteria, do not arise in that fluid spontaneously, but come from without? Do we not also learn that the germs from which these bacteria are developed are floating in the air?

The same results have been attained in another way by Mr. Lister. He employs an air-tight iron box, in one side of which is a door, round the margin of which cotton wool is tightly packed, so that no air can get into or out of the box without passing through the cotton wool. Air passing thus through cotton wool is found to be effectually filtered of its motes. The box is heated for two hours at a sufficiently high temperature to destroy completely all the organic material floating in the air or adhering to the sides of the box. It is then allowed to cool. As the air in the box cools, it contracts, and fresh air is sucked into the box through the cotton wool, which filters it. Bottles containing organic fluids placed inside this box, and heated in the manner described, are rendered pure, and if their open mouths be protected by caps of cotton wool, before removal from the box, they will remain clear and unaltered for months and years.

Now, suppose we take one of these flasks which has been kept for months without undergoing any change, and which the microscope proves to contain no bacteria; suppose we open it for a few minutes in the ordinary air of a room, or suppose we dip a finger into it, or add a drop of any ordinary fluid to it, such as water, what will be the effect? It will more or less rapidly decompose, and in a few days the microscope will reveal that it

is swarming with organic life. The least contact with ordinary dust will effect this change.

Now, there is another way of rendering the air inert—of destroying its power of producing putrefaction. When Mr. Lister had purified a flask of organic fluid by means of his hot box, he often required to transfer some of this fluid into a smaller vessel for the purpose of experimentation. The process by which this was accomplished is somewhat complicated, and required an amount of care which rendered it extremely difficult. I need not enter into the details. Mr. Watson Cheyne found that he could dispense with many of these details by a simple process. Let me quote his own words. He says:—"In the small room in which most of my experiments were done, it was almost impossible for me to transfer fluids from one flask to another, by Mr. Lister's method, without contamination and subsequent fermentation; but if I performed the same manipulations in a spray of about 1 in 30, carbolic acid and water, I could transfer all sorts of fluids with ease from one flask to another without any risk, even though done in the most leisurely manner." It would thus appear that there are certain substances, such as carbolic acid, which act upon the air, and render it innocuous. How does the spray so act? It has been contended by some of the opponents of Listerism that carbolic acid does not affect organic germs injuriously. Let us put this assertion to the test. Take a drop of any putrefying fluid, and place it under the microscope; swarms of bacteria are seen moving about in every direction—some leisurely, some in a most active manner. Now, to the margin of the cover glass let us apply a drop of carbolic lotion (1 in 20); at once all the movements cease, and the bacteria do not again recover their power of motion. They have been killed. It is thus established beyond question that the air, when impregnated with carbolic-acid spray, is rendered harmless, because its power of producing fermentation has been destroyed by the germicidal properties of carbolic acid.

So far we have referred to organic fluids, instanced by infusion of beef; and we have shown that when this fluid is boiled and kept in a pure flask, so that no dust or contaminating matter can get access to it, it will remain pure. This is equally true of all organic fluids; it is true of blood, of milk, and of pus.

Let me call attention for a few minutes to a few facts relative to the behaviour of organic fluids with respect to germs. In

agriculture it is well known that the vigour of a crop—its productiveness, depends not only on the quality of the seed, but also and in a more marked degree on the quality of the soil in which the seed is sown. The fruitfulness of the sown grain depends on whether the land is light or rich, whether it is a soil that is suitable to a particular crop or whether it is not. Now, exactly the same conditions hold in the case of germs sown in organic fluids. The soil in which they are sown may be particularly unsuitable for the development of these germs, and consequently for the production of putrefaction, or, on the other hand, the fluid may be very favourable.

Blood has frequently been referred to as having an inherent tendency to decompose, but this is not the case. Yet a mixture of blood and water is exceedingly putrescible. Now let us see what happens when these fluids are protected from germs. Mr. Lister has obtained blood directly from the jugular vein of an ox. The vein was exposed antiseptically, and divided. The blood flowed into a purified flask, the mouth of which was subsequently closed with a cotton cap. Blood so obtained can be kept for any length of time without undergoing any change, even though its putrescibility be greatly increased by its dilution with water. Moreover, this shows us that the blood, circulating through our bodies, is in the normal state free from germs; it contains no inherent properties which would lead to decomposition. This is also true of milk. This latter is a fluid which it has been found most difficult to keep pure. The most elaborate precautions often failed. Mr. Watson Cheyne has found carbolic lotion and the spray a comparatively efficient method. The udder of the cow and the hands of the milkmaid were washed with carbolic lotion (1 in 20); purified flasks were uncorked and filled with milk under the spray. Though some of the experiments failed, owing to the difficulties of carrying out the details thoroughly under trying circumstances, several of the flasks when uncorked after ten months were found to have remained unchanged, whilst flasks which were filled at the same time, but without these precautions, fermented in a few days.

I need not multiply proofs; I have endeavoured to lead, step by step, from a condition of agnosticism to a firm faith in the germ theory, by the cold logic alone of incontrovertible facts. But one step remains, and that is to show that what is true in regard to organic fluids in flasks or test tubes, is as true in regard to fluids in the living body. Let me detail a circumstance which



to my mind is conclusive on this point, and which, without the aid of the germ theory, is inexplicable. Suppose a man meets with an accident which breaks his ribs, and that as a consequence blood escapes into the pleural cavity—that is, into the space between the lungs and the ribs. Suppose air gets in and mixes with this blood. It may get in in one of two ways. On the one hand, the injury which broke the rib may have inflicted a wound on the soft parts covering the ribs, so that the air communicates directly through the chest wall with the blood in the pleural cavity. What will be the result? The experience of the surgeon, whether he believe in the germ theory or not, is that that blood will assuredly undergo putrefaction, with all its attendant dangers. Now, on the other hand, suppose that the chest wall has not been punctured at all, but that the sharp end of the broken rib has injured the lung so that, at every breath, air is pumped into the pleural cavity from the lung and mixes with the blood. Will the blood under these circumstances decompose? *It will not.* It will remain pure, and, in all probability, be absorbed. This “was to me a complete mystery,” says Professor Lister, “until I heard of the germ theory of putrefaction, when it at once occurred to me that it was only natural that air should be filtered of germs by the air passages, one of whose offices is to arrest inhaled particles of dust, and prevent them from entering the air cells.”

Professor Tyndall has shown, by means of the electric beam, that this hypothesis is not only *natural*, but that it is perfectly *certain*. By breathing out across the condensed electric beam, “an obscure disc appears in the beam, the darkness of which increases, until finally, towards the end of the expiration the beam is, as it were, pierced by an intensely black hole, in which no particles whatever can be discerned. The deeper air of the lungs is thus proved to be absolutely free from suspended matter.”

I have already called attention to this scientific fact, that a ray of light, when it passes through “optically pure” air—that is, air which has been freed from all particles of dust which have been floating in it—becomes invisible. *Vice versâ*, if a ray of light passing through air becomes invisible, that air contains no particles suspended in it. Hence the air breathed out of the lungs, *at the end* of expiration, must be perfectly pure, as it fails to scatter the light. The fine air tubes in the lungs have effectually filtered and purified it. That such air entering the pleural cavity containing blood is powerless to produce putrefaction, follows as a necessity



on the germ theory, and we find by experience that such is the case.

Again, in certain cases, it becomes the duty of the surgeon to make an opening through the chest wall into the pleural cavity. Suppose, for instance, we have to deal with a case of empyema, a case in which a large quantity of pus has collected within the chest. I need not say that it is of the greatest importance to get rid of this pus, and, therefore, it becomes imperative for the surgeon to make an opening through the chest wall. As soon as this is done, the air of the room is sucked in through this opening at every inspiration. Now, under ordinary circumstances, the pus, which at first was pure and sweet, would, as a necessary consequence, gradually become foetid and undergo putrefaction. We have seen that this putrefaction is brought about by the agencies of germs, which the unpurified air carries with it into the pus. The air enters without undergoing the purifying process which filtration through the lungs would accomplish. We must provide some other means of purifying it here. We make use of the carbolic spray. In such a case Mr. Watson-Cheyne has employed it, and day by day he has examined the pus which flowed out through the drainage tube. For over a month after the chest wall was opened, a drainage tube inserted, and the wound dressed by Lister's method, the pus remained perfectly fresh, and the microscope failed to detect any trace of organisms in it. And this is the experience of those surgeons who have used this method honestly and perseveringly; of those who, undaunted by failure, have worked *through* failure to success, because, with the humility of the truth-seeker, they believed that when they failed, the fault lay not in the principle of antiseptic surgery, but in *their* method of applying it.

Is further proof required to convince us that the germ theory of putrefaction is true, and that we have in carbolic acid a means capable of destroying the unseen, yet ever present, organisms which throng the air? If you still doubt, I ask you to examine a case in which some large wound, such as an amputation, has been allowed to remain exposed to the ordinary air in the ward. The wound in all probability is healing slowly, there is an abundant discharge of pus, most likely foetid. Take one drop of it, place it under the microscope, you will see that it swarms with bacteria—bodies similar to those observed in putrefying organic fluids. Look at a precisely similar wound, which has been treated from the beginning in the most careful way by Lister's method; it is healing

rapidly; a few days completes the process; there is no pus; the discharge is thin and clear and odourless; test it with the microscope; you will find no trace of bacteria in it.

I have been able only to give instances of proof, but I can confidently state that behind these instances, conclusive in themselves, is an overwhelming host of other proofs as incontrovertible.

I have alluded chiefly to the spray, because it serves to illustrate the principle on which the whole system of antiseptic surgery is based. But I cannot now enter into the details of this method, which we owe to Professor Lister; you will learn them better by intelligently studying the practice of them in the hospital.

Gentlemen, as I hope that each of you hereafter, when you enter upon the practice of your profession, will adopt this method, with the firm conviction that the welfare of your patient demands it, and I believe you will, let me tell you the secret of success. The secret is *thoroughness*. "Interpenetrated with the conviction that the germ theory of putrefaction is true," look upon everything which comes near your wound as though you could see bacteria upon it, unless it has been previously purified. Should your hands, as you operate, leave the antiseptic atmosphere of the spray for a moment, believe that in that moment your aërial enemies have settled upon them. Act always on the defensive, and because you cannot *see* your enemies, believe them omnipresent. If you act thus in faith your success will not be fitful. You will effect what you aim at. You will see wounds, and those of the most dangerous kind, heal in a few days, without fever, without suppuration, without blood-poisoning—results which our predecessors would have looked for as the highest goal to be reached in surgery, but which they hardly hoped would ever be attained.

If you believe in the germ theory, and believe in it you must unless your minds are blinded by prejudice, you must, as a natural consequence, adopt the antiseptic treatment of wounds. Do not be deceived by names. We may hear *this* method or *that* method of treating wounds lauded, and many of them have undoubtedly given good results, but when we come to look into them their value consists in this, that they all aim, in some degree or other, at *interfering* with the growth and development of germs which have made their way into the wound. They do not aim at totally excluding them. Some propose to neutralise their effect with antiseptic lotions; some hope that they will make their exit with-

out doing harm, if we open a way for them, by means of free drainage. Now the value of any one of these methods is in proportion to the degree in which the method acts antiseptically and no more. Underneath all these methods lies the tacit acknowledgment of the germ theory. If we take our stand on this theory, and accept it as a fact established by undeniable proofs, I say the logical consequence of it is, that we will rest satisfied with no system of treating wounds which does not aim at keeping the breeders of putrefaction out of them altogether. The carbolic spray may fall into disuse, carbolic acid itself may be given up in a few years, but never till a substitute is found—a germicide as potent as carbolic acid, which can be proved to be free from all objections. Lister's method may be improved, but the principle on which that method is based will be as undying as the name of its great author.

As believers in the germ theory of putrefaction, and in the antiseptic treatment of wounds, we shall meet with plenty of opposition, and we must be prepared to meet it. Let us be sure of the ground on which we stand, and we need not fear the objections which are raised to our belief by *honest* critics. We may be met by such questions as these:—How do you account for wounds exposed to the air sometimes healing by first intention without suppuration? How do you account for abscesses giving rise to blood-poisoning which have never been opened or exposed to the air? How is it that bacteria may be found in abscesses originating internally, and yet no blood-poisoning ensue?

To such questions as these we shall often find it exceedingly difficult to reply; yet answers to these questions have already been offered, which to most minds are perfectly satisfactory. Yet allow for the moment that these problems and the like cannot be satisfactorily solved to-day, I ask how does this affect the point at issue? How does it affect the germ theory? It only shows us that much as we know of the properties, the mode of spreading, and the life-history of these microscopic germs, there is a great deal we have still to learn. Such objections amount only to this. It has been proved that germs in the air are the cause of putrefactive changes taking place, and that if they can be excluded then no such changes occur; but it cannot be *proved* with the same absolute certainty why bacteria sometimes, and that but rarely, fail to cause putrefaction; nor can it be *demonstrated* how they make their way into deep-seated abscesses. We should indeed have made progress

in the study of germ-life if we could to-day explain all the phenomena which arise.

I cannot conclude without briefly showing some of the results which the germ theory has attained when applied by such men as Pasteur, Lister, and Koch—men whose scientific acumen will allow them to accept no proposition till they have examined it, and satisfied themselves as to the foundation on which it stands. These men have accepted the germ theory, not as the outcome of an enthusiastic imagination, but as the legitimate offspring of a logical sequence. They have tested its value in the vegetable kingdom, and have been rewarded by the results; they have applied it to animals, and they have found that it has not failed. They have brought it to bear as an untried weapon in fighting against diseases which have ravaged humanity; they have found it still victorious. Let me briefly show how this theory has been applied, and how it has worked. The discovery of the yeast plant was the first glimmer of light which shone on the much-vexed question of fermentation. Pasteur followed this up. An opportunity of testing this new doctrine soon occurred. A plague had stricken one of the most prolific of French industries. Some unknown cause was at work, which threatened to ruin the wine trade of his country. The wine would not keep; especially when exported it became acid or bitter. Pasteur took the matter in hand. He soon discovered that the cause of these deteriorations were organic germs. Pursuing his investigations further, he found that these organisms could be destroyed by heat, and, moreover, that the temperature necessary to destroy them was so low, 122° F., that it did not affect the wine. This knowledge was applied. When the wine was heated to this degree no change subsequently took place in it. The germs which made it undergo this acid fermentation were recognised and killed, and the French commerce in wine was saved.

Another of the richest trades of France was threatened with destruction. A plague called pébrine, which attacked the silkworms, had raged for fifteen years. Multitudes of them died, and those that survived supplied but a small fraction of the usual quantity of silk. It will give an idea of the extent of the mischief when I say that in one year it entailed a loss of a hundred million francs. All kinds of theories were started to account for the disease, and every variety of nostrum was prescribed. They all failed. Pasteur undertook the task of tracing the disease

to its origin. He found it was the work of a parasite, a minute living organism, which in its earlier stages of growth defied even the power of the microscope. For several years he followed the life-history of the silk-worm, from the egg to the full-grown worm, then to the chrysalis, and finally to the moth which again lays the eggs of a succeeding generation. Side by side he traced the parasite, found it contaminating the leaves on which the silk-worm fed, and thus introducing itself into the intestinal tract of the worm. Then it invaded the sack which contained the material from which the silk-worm spun its cocoon. Growing and multiplying here, the sack soon became filled with these organisms. The infected worm would spin automatically, but it had no material, and its labour was fruitless. Pasteur applied himself to the remedy. He discovered the exact period in the development of the worm when the poisonous germ might be destroyed. He succeeded, and saved the silk industry to France, and millions of money to her exchequer. During the whole period of his investigations, working for the benefit of his nation, he had to contend not only with the disease he was sifting, but with the most virulent opposition. In his work on Silk-worms he says—"Since the commencement of these researches I have been constantly exposed to the most obstinate and unjust contradictions, but I have made it a duty to leave no trace of these conflicts in this book."

In the application of the germ theory to the surgical treatment of wounds, Professor Lister might well use these words. Like Pasteur, however, he has been rewarded by more than the uncertain eulogies of his fellow-workers, he has been rewarded by success. Surgery in the last few years has been revolutionised, and it is no exaggeration to say that, in so short a time, never has there been such progress made. The antiseptic method has introduced to surgery operations which formerly were unjustifiable. Now they are attended with little, if any, risk. Hospital gangrene, erysipelas, and blood-poisoning, at one time rampant, have nearly ceased to exist. What does Professor Nussbaum tell us was the condition of the hospital at Munich before he introduced Listerism, and its condition now? He tells us that previous to the use of the antiseptic method, "pyæmia always flourished there; that since 1872 hospital gangrene has been a constant though unwelcome guest, so that in one year 80 per cent. of all wounds were attacked." He speaks of erysipelas and hospital gangrene as so prevalent in the building, "that it was the exception for a patient to escape an

attack. The hospital was a veritable pest-house." Here then was a fitting soil on which to labour. Here was an opportunity for putting theory to test. He introduced the Listerian method. Every case of wound was treated on strict antiseptic principles. Since then he tells us he has not had one case of hospital gangrene (there having been previously 80 per cent.), not one case of blood-poisoning; and he has abolished erysipelas altogether; and this change has continued uninterrupted for five years.

But it is not in surgery alone that the germ theory has been victorious. As each year passes some new discovery reveals to us the hidden workers of disease. Fever poisons and the like have been called viruses; we can now recognise their forms as specific germs. Not long ago diphtheria was added to the list. The organism which caused it, a form of what is called the micrococcus, has been recognised, and its life-history scanned. Scientific practitioners abroad have been attacking it with antiseptics—Letzerich with benzoate of soda, Oertel with carbolic acid. Soon, I have no doubt, its vulnerable point will be struck. In Germany and Russia a disease, always fatal, called splenic fever, caused havoc among cattle. In the single district of Novgorod, in three years, it destroyed over 56,000 horses, cows and sheep. Its ravages reached even to the people in this district; over 500 perished during the same period of this disease. Koch examined the blood of these animals; he found it swarming with organisms, and with their spores or seeds. He tested the vitality of these germs. He dried some of the blood containing the spores, and made it into a dust, then he wet it again and dried it, and subjected it to a variety of other tests. He kept it for four years, and then inoculated mice with it. The spores had not lost any of their vitality. They were as active as when first they were procured. All the mice died of splenic fever. Surely when the first streaks of light have already dawned on the cause of the disease, we have not long to wait till the day breaks on its cure.

There is scarcely a malady which has hitherto so baffled the skill of the physician, and mocked his every effort, as the dreaded disease, hydrophobia; yet the germ theory promises to crush it beneath our feet. It has shown the insidious poison which lurks within the system long before it attacks its victim. This period of apparent inaction is seized. Experiments are now being made to show whether, by a process of inoculation, after the victim has been bitten, he may not be protected against the dreaded outburst of the



disease. When this is established we may claim for the germ theory and its development one of the greatest triumphs we can attain.

The germ theory has recently been brought to bear on tubercular diseases. On the 24th of March last, Koch delivered an address at Berlin, in which he struck a chord which has vibrated through the whole world. It deals with a disease which, in point of mortality, stands at the head of all infective diseases. "If," he says, "the seriousness of a malady be measured by the number of its victims, then the most dreaded pests which have hitherto ravaged the world, plague and cholera included, must stand far behind the one now under consideration." He makes the startling statement that one-seventh of the deaths of the human race are due to tubercular disease, while fully one-third of those who die in active middle age are carried off by the same cause. By a series of elaborate experiments, Koch has at last discovered the source of this terrible scourge—the *fons et origo mali*. What is it? A micro-organism. He has isolated it, cultivated it, and inoculated with it. He has traced it through the stages of its existence. Is it too much to expect that the day is not far off when this malady, now placed in the long list of preventable diseases, will itself be prevented? That as knowledge increases, and earnest workers still labour on, some means shall be found for striking down the enemy now dragged to light—a foe which eluded every attempt at attack, because it was unseen and unknown. "It is in the power of man," says Pasteur, "to banish parasitic diseases from the surface of the globe, if, as I am convinced, the doctrine of spontaneous generation is a chimera."

This is no vain boast. He has shown us how it is to be done in the brilliant results he has already attained. Within the past year he has added another proof. He discovered the germs or spores which caused an epidemic of typhoid fever among horses in Paris. He experimented with these germs, and found that a certain line of treatment rendered them sterile, or, in other words, killed them. He then got some fresh germs; he nursed them and doctored them till he reduced them to the verge of death. Seizing this critical moment, he subjected them to an invigorating regimen. They revived, but their power of mischief was almost completely destroyed. With these he inoculates. This inoculation produces a modified and much milder form of the disease, which effectually shields from the severer type. This "attenuated" virus, as it is called, acts as the vaccine of the original poison.



Such are some of the developments of the germ theory, and such are the rich fields it opens up before us. The privilege is accorded to us to go in and possess them. The great Alexander wept because there were no worlds left for him to conquer. We need not pause and weep, or share his regret. Boundless regions of unknown wealth lie before us, rich in blessings for mankind. But we must be prepared to conquer them. It behoves us to rise and gird on our sword—the weapon of honest industry, kept bright by daily use, untarnished by idleness, unblunted by prejudice.

THE BOSTON  
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OBSERVATION

ART. XVI.—*Whooping-cough: its Pathology and Treatment.\** By  
THOMAS M. DOLAN, F.R.C.S., Edin.; L.R.C.P.E.

WHAT is whooping-cough? A definition may be easily framed. It is a communicable disease depending on a specific poison. It prevails epidemically and sporadically. It is characterised by fever, malaise, irritation of the respiratory tract, catarrh, and subsequently by a hard, dry, convulsive, paroxysmal cough. It attacks all ages and sexes, but especially children, rarely occurring more than once; usually it runs a course varying from three weeks to three months. It may be complicated with other lesions, as ulceration of the frænum linguæ, enlargement of the tracheo-bronchial glands, capillary bronchitis, lobular collapse, emphysema, various hæmorrhages, convulsions, catarrhal pneumonia, tubercular meningitis, and other diseases of children.

This definition is sufficiently broad and comprehensive for all practical purposes. It, however, is not sufficient. A recapitulation of symptoms is not an explanation. Without sheltering behind a definition I shall attempt to explain more explicitly the nature of whooping-cough. A survey of our literature reveals to us the great divergence of opinion that has existed, and still exists, on its pathology. The favourite view seems to be to look for its seat in the nervous system; so we have theories fixing on the cerebrum, medulla oblongata, pulmonic and diaphragmatic nerves, pneumogastric, and phrenic nerves, as the centres of morbid change; we have theories in which it is assigned to a catarrh of the lungs and stomach, to a form of specific inflammation of the larynx and glottis. It has been looked upon as a form of bronchitis, inducing

\* This paper is a *résumé* of the Fothergillian Prize Essay for 1882. Read before the Medical Society of London, Oct. 16th, 1882.

directly spasm of some part of the respiratory apparatus, or cephalic irritation, which in its turn excites the spasm. It has been ascribed to the irritation of insects. These are the views of the earlier writers on the disease.

Modern views are mainly composed of a repetition of the above.

Time will not allow me to dwell upon all the theories advanced, but I shall devote a little attention to the views of Dr. Guéneau de Mussy, in order to make them the basis for my objections against the majority of theories.

At a meeting of the Academy of Medicine, Paris, 1876, M. Guéneau de Mussy presented some pathological specimens, collected by an old pupil, M. Parinaud, who, in two *post mortem* examinations which he had made on children dying from whooping-cough, had found an enlargement of the tracheo-bronchial glands compressing the pneumogastric and its bronchial branches. The theory of M. Guéneau de Mussy is, that the malady is essentially an affection of these glands, a bronchial adenopathy. In 1846 Dr. Ley advanced a somewhat similar view. In the *British Medical Journal*, October 25, 1879, Dr. de Mussy has another contribution more explanatory of his views. I share in the objections raised by M. N. Colin, Hardy, Blot, Woillez, in the discussion at the Academy of Medicine, Paris; and by Drs. Barlow and Burney Yeo, at the Pathological Society of London, January 31, 1879.

My own experience and the *post mortem* evidence obtained by me are confirmatory of the observations of Drs. Barlow and Yeo. Still more the evidence of the *post mortem* room is conclusive on another point. Though the bronchial glands may be enlarged from various causes, yet the pertussoid cough has been absent in life. Amongst the poorer classes, amongst those whom we have an opportunity of examining in our public institutions, glandular enlargements are but too frequently seen; the cervical, mesenteric, and inguinal glands, may be palpably felt enlarged. This arises from the unhealthy conditions, insanitary surroundings, and bad or impoverished diet of this class. As the superficial glands are thus enlarged we may not unreasonably infer that the deeper glands will be affected. The *post mortem* room is the place to verify this, and I have found that this inference is generally correct. Pertussis has been absent during life in these diseases. Many of the arguments against the de Mussy theory apply to all theories which would locate the disease primarily in a nerve centre. If we admit

a pure nervous theory, then we must dismiss a theory of *contagium vivum*.

Against the theories which place pertussis amongst the bronchitic class, independent of the difference of symptoms, the contagious argument has equal force. I cannot find any evidence to support the view that it is primarily an inflammation of the larynx and glottis. The theory of its relation to the exanthems will admit of fuller consideration. There is singular unanimity amongst medical writers on some of the facts about pertussis. All agree in considering it contagious or infectious. It has its period of incubation, of effervescence and defervescence; it has a character peculiar to itself. It runs a regular course; it rarely occurs more than once in the same individual. Though its virulence does not equal that of scarlatina or variola, yet it is sufficiently active to extend the disease, and the *contagium* may be carried to a distance. Walsh relates a case furnished him by Dr. Neil Arnott. In 1877, whilst carrying on some experiments with the sputa, I carried infection to my own house. One of my children contracted the disease.

Looking at all the phenomena and the symptoms in their entirety, whooping-cough presents certain resemblances to the so-called zymotic diseases. The very absence of distinct morbid, primary, anatomical changes, favours this view. On the grounds of analogy I would extend the list of diseases caused by minute organisms, by including whooping-cough in the group.

It is an axiom in logic and philosophy that when several explanations are offered to account for any phenomenon, it is always better to choose the simplest. In classing whooping-cough among the fungoid diseases I am acting on this sound principle.

1st. It is simple.

2nd. It is in harmony with some ascertained facts.

3rd. It explains most of the phenomena.

4th. It has been partly verified.

Previous experiments have been made in this direction.

Linnæus, to a certain extent, foreshadowed modern views when he endeavoured to prove that almost all diseases were produced by *animalculæ*, or had an insect origin; though his opinion was only adopted by the Linnæan school.

Many of the older writers believed that what was termed *tussis sicca*, or dry cough, was produced by the larvæ of insects, the minute eggs being exhaled into the air of respiration, finding a convenient nidus in the bronchial vessels.

Linnæus and the older writers were not so very far wrong. It was reserved for the present generation to prove that germs were at the root of many diseases, and that from these germs organisms were developed which grew, reproduced, and died—which thus manifested all the signs of vitality, so that they had to be classed as organic.

The insect of Linnæus is the microbe of Pasteur. Two great minds thus meet at the same conclusion.

Letzerich states he has succeeded in producing whooping-cough in rabbits, by inoculating the trachea with the sputa of the human subject. These sputa, he maintains, always contain fungi. So far back as 1867, M. Poulet is said to have found in the moisture of patients suffering from whooping-cough what were then termed Infusoria, belonging to the class Bacterium Bacillus.

Binz also believed that the disease was dependent upon the reception and further development of some form of fungus. He ordered quinine in the hope that it might act upon the spores of the fungi while circulating in the blood.

I have not been able to find any references to any English observer who believed in a fungoid origin. Since Poulet first propounded the fact that he had found some form of infusoria in the sputa of whooping-cough, we have made great strides in our knowledge of the organisms which he misnamed.

Poulet, Letzerich, and Binz stand almost alone in their views and experiments.

I have endeavoured to find out the organism on which pertussis depends, and a series of experiments were made in order to test the contagious influence of the blood, nasal secretion, expectoration, saliva, vomit, and other fluids thrown off from the body. The animals I selected for experimentation were rabbits. The poet is born, not made; and so I believe the experimenter has to have special gifts. It is not given to all to be a Pasteur, Koch, or Lister. Valueless though my experiments may be, yet they indicate the lines on which we must search for the intimate nature of pertussis.

As regards the blood in pertussis I could find no alteration in colour, constituents, proportion of red and white corpuscles; I could not detect any organism; injected into rabbits, no effect was produced.

As regards the nasal secretion and sputa a decided effect was produced; when injected into nasal passages, roof of mouth, and back of some rabbits, the rabbits died.

One point of interest connected with these experiments is that the sputum exerted its poisonous influence, whereas the blood did not do so.

The question naturally arises — Is there a morbid principle attached to the sputum intrinsically belonging to it? or, is the morbid principle the result of some kind of alteration in the sputum subsequent to its ejection from the bronchial tubes of the pertussoid patient, from whom it was obtained? These suggestions or enumerations of particular questions springing from the general question of the pathology of whooping-cough, show us what a highly complex problem we have to solve; and this complexity is not confined to whooping-cough, but is *inherent* to all questions on the nature of infectious and contagious diseases.

I believe that the nasal secretion and sputa thrown off by a patient with whooping-cough contain a well-characterised toxic principle, which we may consider as the principal agent of the malady; that the sputa, &c., confine this morbid principle, though as the result of change, germs may be thrown off into the air, thus spreading the infection, and acting as a ferment, just as the common germs of milk fermentation or putrefactive change act. When the sputa, nasal secretion, or blood of a patient suffering from whooping-cough are allowed to stand for about eight or ten hours, we can readily find ordinary forms of bacteria, but these forms will not give rise to pertussis.

It is probable that M. Poulet mistook a harmless bacterium for a harmless bacillus, as there is little or no difference in the appearance or behaviour of some forms of these respective organisms under the microscope, though there is a very important difference in their action, by means of which we are able to differentiate between them.

I have frequently seen in the sputa of whooping-cough the appearance of an organism, to my eye resembling the spirochæte plicatilis of Cohn; but on submitting sputa of this nature to a better microscopist than myself, I have been assured that this seeming microbe was a delusion. I make this confession as it is so easy to make mistakes in microscopic work, and it is possible to see in the field of the microscope what we wish to see. There is a personal equation which must be allowed for. Though I believe that some form of microzyme, or microbe, is the cause of pertussis, yet I cannot truly say it has yet been found.

Since this essay was written, the tubercle bacillus has been

discovered by Koch. Improved methods of staining have been devised by Dr. Heneage Gibbes and others, by means of which these minute organisms may be more readily seen.

Further experiments with the sputa of pertussis will, I believe, reveal the existence of a special microbe.

All admit that pertussis is contagious. How does the virus find an entrance into the system? How does it act when introduced? As a germ disease it follows the laws of other germ diseases. The germs enter by some of the channels by which other contagia enter. They develop in the blood, setting up constitutional disturbance, subsequently attacking the pulmonary epithelium, and giving rise to all the phenomena which characterise whooping-cough.

We have location of bacilli in splenic fever, wool-sorters' disease, and, phthisis. From the lungs spores or germs are again thrown off into the air; the contagion is thus carried about and extended.

Do we find any morbid lesion peculiar to whooping-cough? There is one almost constant lesion—viz., ulceration of the frænum linguæ. This is traumatic; the indispensable conditions for its occurrence being propulsion of the tongue outside the mouth during a violent attack, and repeated rubbing of the frænum on the free borders of the incisors.

In pure uncomplicated whooping-cough the scalpel of the most practiced anatomist fails to detect any characteristic or pathognomonic lesion. If my hypothesis be true, I am not surprised that morbid anatomy should not throw any light upon its pathogenesis, when the patient dies in the primary stage of the disease.

If we make a *post mortem* examination on the body of a person who has died from wool-sorters' disease, the scalpel of the anatomist will not reveal the nature of the disease—presuming at the same time that the symptoms during life are unknown to him.

The same may be said of typhoid, before complications have arisen.

The simple disease, whooping-cough, is rarely fatal; it is the complications which kill and leave their marks behind.

Whooping-cough cannot long persist without leaving some impression upon various parts of the frame, and we have consequently secondary lesions, which I have considered in full in my Essay, but time will not allow me here to dwell upon them.

I must, however, devote a little time and consideration to the phenomena of "Kink" or Cough.

In no other disease do we meet with such a cough. It has a

character peculiar to itself; it is known to every mother, and the diagnosis is soon made out when once you hear this "kink." It is unlike the cough of laryngismus stridulus. How is it caused? Coughing is a common effort, consisting in the first place of a deep and long-drawn inspiration, by means of which the lungs are well filled with air, this being followed by a complete closure of the glottis, followed again by a sudden and forcible expiration, in the midst of which the glottis suddenly opens, and a blast of air is driven through the upper respiratory passages. Coughing is a reflex act. But there is something more in the cough of pertussis. In what does the difference consist, and what are the pathological conditions, if any? There are two stages in the paroxysms.

First. We have a number of expiratory efforts made in quick succession, during which the air is driven out of the lung in jerks of varying degrees of violence. During this stage no air is taken in to make up for what is lost. The blood is thus imperfectly aerated, and the patient seems on the point of being suffocated.

In the second stage we have exhaustion of the paroxysm, followed by a long-drawn act of inspiration; at this period the peculiar crow, kink, or whoop, so characteristic of the disease, is heard. The violent expiratory efforts, followed in turn by inspiratory efforts, recur again and again under the influence of reflex irritation. The paroxysms may go on until the irritation is removed, expectoration or vomiting accomplishing this.

The question naturally arises—In what condition are the lungs during the paroxysms? If the chest be auscultated between the short intervals of expiration and inspiration, you will hear some wheezing or vesicular breathing; but if the ear be applied to the chest during the long-drawn noisy inspiration, there is nothing to be heard. How can we account for this? Several hypotheses have been put forward:—

1st. It has been supposed to result from the slow and niggardly manner in which the air passes towards the lungs through the chink of the glottis, which is spasmodically narrowed.

2nd. Laennec believed that it depended in part upon a spasmodic condition of the muscular or contractile fibres of the bronchi and their branches. We have no *post mortem* evidence to confirm Laennec's view, but if it were possible to examine the lungs in this stage I am of opinion that Laennec's view would be found correct. We know now more about the minute anatomy of the lungs than we did in the time of Laennec. The industry of Charcot has



opened out to us the minute anatomy of the lung. We must bear in mind the minute anatomy of the lungs if we desire to fully appreciate why all is silent in the chest during the inspiratory stage, the causes at work in the production of emphysema, collapse of the lung, and other secondary conditions of the pathology of whooping-cough.

The minute anatomy is very important in connexion with the part played by the pneumogastric nerve in whooping-cough. Roughly stated, the lungs are supplied from the anterior and posterior pulmonary plexuses, formed chiefly by branches from the sympathetic and pneumogastric. The filaments from these plexuses accompany the bronchial tubes, upon which they are lost. Small ganglia are found upon these nerves. Irritation of these nerves is said to have the effect of producing contraction of the bronchial canals, sufficient to expel a certain quantity of air. If this theory be true, it helps us in explaining why the larger, mediate, and smaller bronchi are closed during the expiratory stage of the pertussoid paroxysmal cough.

Professor Albers, of Bonn, states that after having examined the bodies of forty-seven children who died of whooping-cough, he found the vagi perfectly healthy in forty-three. I allude to this as there is a theory that inflammation of the vagus is the primary cause of pertussis.

I cannot dwell upon all the complications, but I must allude to two:—

1st. Emphysema.

2nd. Pulmonary collapse.

Emphysema will be found frequently in *post mortem* examinations. The explanation of this condition given by Sir William Jenner is the one I accept—viz., that it is attendant on expiration. Lobular collapse of the lung is so frequently met with in whooping-cough that, according to Alderson and Hewitt, it is rarely absent. I have nothing to add to the able account given by Sir John Alderson.

*En passant* I may allude to a statement of Gibb, that the urine is very frequently saccharine in pertussis.

I have examined the urine of fifty children with confirmed whooping-cough, and could only find traces of sugar in fourteen. The presence of sugar in the urine of children may be accounted for without ascribing it to the irritation of any nerve.

In concluding this first portion of my Essay I must mention that

I do not make any claim to be the first who has propounded this theory. In the history of medicine it will be found that there are few theories advanced, even in modern times, which do not bear some relation to some theory advanced at some previous time, or, as George Meredith says:—"The moderns live on the ancients, and not one in ten thousand can refer to the particular treasury he filches."

I consider this theory to be the most satisfactory yet propounded from a pathological standpoint, whilst at the same time it harmonises with the majority of the methods of treatment advanced, and renders them intelligible. Treatment is even more valuable than hypotheses about pathogenesis; and treatment may be correct even though our pathological views may be wrong.

In all the various methods of treatment advocated—running, as it were, like the diapason or the swell of the organ, through all the supernumerary notes which complete the *môtif*—there has been one great leading idea—viz., that whooping-cough should be guided through its course, warding off inflammation, and quieting irritation. This is the key-note which has been struck by some of the best physicians, past and present. Under the zymotic theory this key-note is alone explicable.

I shall presently consider the subject of treatment; but first I must devote some time to the question of prevention.

There has been no systematic attempt made to educate the public on the preventive measures which should be adopted to limit, check, or stamp out whooping-cough. There are few diseases about which there is more lamentable ignorance and carelessness amongst the public, and the people sin in consequence of this. Though it is popularly believed to be contagious, yet no precautions are taken to prevent infection.

There is one great fallacy against which for many years I have contended, though I regret to say without much result. The public believe that every child must have whooping-cough, measles, and scarlatina, and as they must have these diseases, the sooner they contract them the better. When I have asked sensible fathers and mothers why children should have such diseases, they have fallen back upon their experience, and told me that it was one of the laws of Providence, and that there was no escape from it.

Whole hecatombs of children have been sacrificed at the Moloch of custom and superstition. We have a great work to do in the present and in the future; we must kill this false

idea, and teach the people to value at their proper worth pure air, pure water, cleanliness, and light. The most numerous class is called the working class; we must begin our work on this stratum.

How necessary instruction is, all medical men must know. When scarlatina or measles invades some of the households of our working classes, there is no attempt made at isolation. Sympathising neighbours come backwards and forwards, other children are exposed to the contagium, and thus the disease is carried from one house to another, and perpetuated.

When a child has the whooping-cough it is allowed to play with other children, sleep in the same bed with them; there is not even a pretence at isolation. Children play in the streets, travel by cabs, omnibuses, railways, with confirmed whooping-cough, and no notice is taken of it, and no wonder expressed that such a thing should be. We often hear it said—"The child has only got the whooping-cough." Yes; the child has only got a disease which causes a fourth of the annual mortality amongst children under five years of age in London—only got a disease from which thousands of children die annually in the provinces, and yet we wonder that we have a high infant mortality. Contagium is what we have to contend with in whooping-cough. If it were possible on the same day to isolate all the children suffering from this disease in England, and to keep them in quarantine for a lengthened period, whooping-cough might be stamped out. This is, I know, impracticable. We may, however, do much to check and limit it. Without the assistance of the public we are powerless.

Whooping-cough, like all the other zymotic diseases, teaches us one lesson—the dependence of one class upon another. If we throw a stone into a pond a very well-known phenomenon occurs. The water is disturbed, very soon circles may be seen radiating from the disturbed centre; these circles increase, grow wider and wider, until they are ultimately lost to the perception of the eye; each circle bears a geometrical relation to the preceding circle—all owing their origin to the primary point at which the stone sank out of sight. When whooping-cough or any other infectious disease occurs, from this tainted centre waves or circles may be thrown off; these waves may increase, growing wider and wider, but, different from the mimic circle on the pond, carrying with them disease, misery, and death. These waves do not respect old or young, rich or poor, the prince or the peasant—they all bear a

relation to the primary case, so that each class has an interest in confining the operation of the primary disturbance.

If each one discharged his individual responsibility there would be no excessive individual sacrifice; if each one considered his neighbour, how easy it would be to check infectious disease—it all follows in a consecutive chain of duty and self-interest. By the isolation of the first case of whooping-cough in any house or street, by the observance of the general directions I have given, a limit would be put to the spread of the disease. One family would suffer a little self-denial, and it would involve a little self-sacrifice, but the general gain to the community would be great indeed. I have entered into full details in my Essay as to the necessary measures to be adopted.

*Curative and Palliative Measures.*—The scientific physician does not pretend to cure scarlatina, measles, typhoid fever, small-pox; but, like the helmsman at the helm of a ship, he strives to guide their course, to pilot his patients safe to land, to recovery, avoiding the reefs and rocks, or otherwise the complications, which may arise. Great skill is required in this process, even though all the above diseases run naturally towards recovery. Like the above diseases, whooping-cough as a rule runs a regular course, and the efforts of the physician are directed to steering safely through the perils which surround it. His aid is valuable, even though he does not pretend, in the sense in which it is generally understood, to cure it. Many specifics have been introduced, claiming the power of arresting the disease; most of them have proved worthless.

It would not be far from truth to say that nearly all the drugs in the Pharmacopœa have been tried:—Arsenic, alum, acetic acid, antimony, benzine, belladonna, bryony, chloral, cannabis-indica, cantharides, cochineal, croton oil, chloroform, carbolic acid, drosera, ether, hydrocyanic acid, hyoscyamus, ipecacuanha, iodide of silver, lobelia, laudanum, morphia, nux-vomica, nitric acid, petroleum, potassium salts, turpentine, salicylic acid, and quinine, have been recommended and praised for their efficacy by various writers. Blistering and bleeding have had their advocates.

Looking at this long list, the student naturally must have a difficulty not only in selecting a medicine, but even in comprehending on what principle so many drugs have been used.

In olden times when a gun called a blunderbuss was used, a large quantity of shot was placed in it; when it was discharged there

was a great waste of lead, but the sportsman had the hope that some of the pellets would hit the object aimed at. We might understand the *rationale* of using the above-named medicines if they were all compounded in the same mixture—the prescriber might have a hope that some of them would reach the disease, and thus do some good. Administered singly it is not easy to understand on what theory they could be prescribed.

I shall devote a short space to the consideration of some of the methods and treatment of the theories advanced. I shall commence with the views of that great observer, Cullen. How terse is his definition of simple whooping-cough:—"Morbus contagiosus; tussis convulsiva, strangulans, cum inspiratione sonorâ iterata; sæpe vomitis." There is a text for half-a-dozen pages of descriptive word-painting.

Sir Thomas Watson has left us an admirable piece of word-painting, in his "Practice of Medicine," of a paroxysm of whooping-cough; but his diction is soft and graceful, while Cullen's is forcible, vigorous, and rough. Both were masters in their art. We have reason to be proud that we have our literature enriched by such writings.

Cullen observes with singular modesty:—"I dare not say anything towards a theory on its pathology. I have no conception of what are the circumstances of the peculiar contagium which determines it to the lungs." As I read these lines, the words come instinctively to my mind (perhaps applicable to myself):—

"Fools rush in where angels fear to tread."

Though he has not a theory, yet he throws out hints on the treatment—suggestions sound and rational.

1st. He recognised that whooping-cough, like measles and scarlatina, runs a certain defined course.

2nd. That there is a particular determination of the disease to the lung, just as in measles we have a determination of the poison to the skin and bronchial mucous membrane.

3rd. He believed in contagium.

4th. He divided his treatment into two stages:—(a) when the contagium is active; (b) when it has expended itself.

Here again we have an analogy with measles and scarlatina; they have their periods when the contagia are active, and when their respective poisons exhaust themselves. These views of Cullen lend a support to my hypothesis. His method of treatment, as regards divisions into two stages, is a very rational one. After the

time of Cullen a number of theories and plans of treatment were put forward.

It is pleasant to turn from these theories to the views of a writer whom I have mentioned in the same line as Cullen. I allude to Sir Thomas Watson. He has not any specific to offer, but he has some sound advice to give. He tells us that the object of rational treatment in whooping-cough, supposing the disease to be simple, should be to keep it simple, to keep it mere whooping-cough, to obviate serious inflammation or mischief in the chest or head, and, if possible, to mitigate the severity and shorten the duration of the fits of coughing.

He does not believe that the duration of the complaint could be abridged. "It will," he says, "in all probability run a certain course, and our business is to conduct it evenly and safely to the end of its course; you will find different persons employing and praising different plans of treatment, the object in all cases, however, being the same—viz., to ward off inflammation and to quiet irritation." I think there can be no question as to the soundness of this advice, and that Sir Thomas Watson has struck the key-note of what treatment should be in the last few sentences I have just quoted. There is one popular remedy on which I shall say a few words. Children are taken to gas works. This is an old remedy.

I have tested the remedy and examined statistics which have been published on the subject, and my conclusions are:—

1st. That in the majority of cases no amelioration in the symptoms or in the duration of the malady has resulted from it.

2nd. That in the minority of cases some benefit has been derived from it. It has not cut short the paroxysms, so that its specific value must be considered as non-existent.

There is a method of treatment, but it is based upon experience and observation. Certain medicines are useful, as hydrocyanic acid, belladonna, bromide of potassium, atropine, carbolic inhalations. The physician will have to be guided by circumstances as to when he shall use depressants—as ipecacuanha.

The method I have adopted for years has afforded me good results, looked at from the numerical standpoint I have just mentioned. It does not pretend to be treatment of a specific nature. I have endeavoured to guide the disease scientifically to a successful issue.

In all plans of treatment certain modifications must be made, depending on the occurrence of exceptional phenomena. Every

plan of treatment must be modified to suit the age, constitution, and the environment of the patient; thus, for instance, we could not pretend to treat a delicate strumous infant with whooping-cough in the same way as we would treat a robust, strong and healthy infant; nor would we use the same measures for an infant that we would employ for a child of two or four years of age.

An empiric might make a fortune by announcing that he had a cure for pertussis even at the present day, and if he were to make up a mixture of bromide of potassium or ammonia, and advertise it with the same spirit of enterprise with which Holloway and Eno have pushed their pills and fruit salt, the same rich reward would almost certainly follow.

Treating the subject from a scientific standpoint, and apart from empiricism, I am forced to agree with those older physicians who have taught that there is no specific for whooping-cough, and that we must be content with guiding the disease through its course. How we may do so I have endeavoured to show, and still more, as prevention is better than cure, laid down directions on prophylaxis which, if adopted, would deprive us of the necessity of having to attempt to cure it.

The latest development of the genius of Pasteur has found issue in arresting splenic fever and fowl cholera by inoculation with the attenuated virus of the microbes upon which those diseases depend, so that I may not unreasonably hope that as whooping-cough is a bacteroid disease, we may be able by his method to add a more powerful weapon to our preventive measures, and that by inoculation with the attenuated virus of pertussis we may render infants insusceptible to the contagion.

Jenner conferred a boon on humanity by the introduction of vaccination. Following in the footsteps of the illustrious Englishman, Pasteur promises to be equally a benefactor to his race. But is not this a sad confession to make that we have to depend on prophylaxis—that we have no specific. I do not think so.

We can control and direct the disease just as we can control scarlatina and variola. We have no specifics for them.

My views are, I believe, in perfect harmony with the temper of medicine in modern times. It is not derogatory to true progress to recognise the Hippocratic *vis medicatrix naturæ*. It is something to be able to estimate the physiological disturbances going on in virus diseases—the heat, the waste, increase of heart or lung action, the altered functions of secretion and excretion; to have the power



of directing or controlling physiological action, though we may not arrest or neutralise the specific organisms at work. It is something to know the nature of the organisms we have to deal with; it is something to feel proud that, by the aid of sanitary science, we can prevent such diseases, though they depend on entities which cannot be cast out after the incubatory stage.

The true pathogenesis of pertussis may not have been pointed out by me, yet if my views be adopted they afford a wide sphere for activity. We can relieve certain symptoms as they arise; we can alleviate, we can palliate, and we can prevent. To counteract the causes of disease is the highest triumph of our art. There is a true and a false medicine—the true consists in knowing how much we know; the false, in pretending that all the arcana of disease and nature are open to us. The true is noble and honest, the false is ignoble and dishonest.

In the interests of the true it is better to unhesitatingly declare that there is no specific for pertussis, and to show the reason why. This I have endeavoured to do. In the interests of our little patients I should have been pleased, had facts allowed me, to write that there was a panacea for pertussis; and when the specific is found I will hail its advent with joy, and gladly put it to the proof. It would be a pleasure in this case to be convinced of holding erroneous views. Meantime, waiting for the panacea, I submit my own method of treatment to the consideration of my readers, and in the words of Horace I say—

. . . . . "Si quid novisti rectius istis,  
Candidus imperti; si non his utere mecum."

#### VENEREAL AND COMMON WARTS.

UNNA (*Monatshefte für prakt. Derm.*, 1882, Band I, No. 3, p. 96) recommends for the treatment of condylomata acuminata and ordinary warts the continuous application of unguent. hydrarg., containing five per cent. of arsenic. In the case of a young girl upon whose hands were a hundred or more warts, the unbroken application for three weeks of a plaster containing in each 0·2 square metre 10 grammes of arsenic and 5 grammes of mercury, caused entire disappearance of the disease without any irritation of the normal skin. Cure was effected not by reason of necrosis and destruction of the warts, as after the use of caustics, but by resorption, as in cases of spontaneous cure.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

**THE BOSTON  
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OBSERVATION**

**PART II.**

**REVIEWS AND BIBLIOGRAPHICAL NOTICES.**

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*On the Climate and Fevers of India; being the Croonian Lectures delivered at the Royal College of Physicians in March, 1882.* By SIR JOSEPH FAYRER, K.C.S.I., &c.; Physician to the Secretary of State for India in Council, &c. London: J. & A. Churchill. 1882. 8vo. Pp. 278.

THIS work is a republication, with cases and other additions, of three lectures delivered before the College of Physicians by Sir Joseph Fayrer. They form, as might be expected from the reputation of the author, a most valuable contribution to the literature of Indian malarial disease, and this volume will be indispensable to medical officers practising in the East. Sir Joseph having been a Bengal officer, his personal experience is almost exclusively restricted to Northern India, and he has not always been able to keep himself free from the "Bengalism" which ignores all India except the north—as in p. 12, where "the army" means the "Bengal army"—but he compensates these disadvantages by copious references to and quotations from physicians of the other presidencies.

It is scarcely possible to over-estimate the importance of malarious fevers in India, as will appear from the following numerical facts taken from the first lecture:—In 1879 4,975,042 deaths were registered. Of these deaths 270,552 were attributed to cholera, 194,708 to small-pox, 250,173 to bowel complaints, and 3,564,035 to "fevers." Unquestionably the diagnostic skill of those by whom registration is carried out in India, and of those who supply the registrars with information as to causes of death, is not acute, and "fatal diseases attended by heat of skin and other febrile characters are returned as fevers." Taking 50 per cent. as a fair proportion of cases of endemic fever, the prevalence and fatality of the latter are appalling. In Calcutta City more reliance can be placed upon the accuracy of registration, and here the annual average of fever deaths in the six years, 1875–80, was 4,936. The statistics

of the Medical College Hospital in Calcutta, so far as fevers are concerned, are given for ten years, but we shall give the figures for 1880 only as illustrative, and they are the lowest of the series. In that year the fever death-rate was 12·67 per 1,000, and the total number of cases treated, of intermittent, remittent, continued, and febricula, was 7,191. In the same year 926 cases of remittent fever were treated in the principal Calcutta hospitals. The year 1879 was specially unhealthy, and malarial diseases were unusually prevalent and fatal. Thus in the British Army serving in India, numbering 57,810 men, 51,959 cases of fever occurred, and 387 died of it. In the native army of 130,011 men, 122,375 cases of fever were treated, with 756 deaths. In the Bombay Presidency 1880 was a bad year, and the deaths attributed to fever were 246,779, 15·21 per 1,000 of the population; the average annual mortality from this cause for fourteen years having been 193,508. For every fatal case of cholera there were 360 deaths from fever. Enough has been cited to show the enormous loss of life due, in India, to malarious diseases, and the consequent transcendent importance of the subject, after making ample allowance for deficiencies and inaccuracies in registration, which, we quite agree with our author, "is not yet perfect."

A very full and satisfactory account of the various views which are or have been held as to the nature and origin of malaria will be found on pages 24–48. The case for and against the *Bacillus malarie* is carefully stated. We may quote the summing-up, so far as India is concerned:—

"Indian experience, however, supports the view expressed long ago by Pringle, that the chief determining cause is stagnant subsoil water under certain temperatures; for when such water moves, however slowly, the evidences of malarial poisoning are less marked. To the stagnant water must be added a certain combination of air and decomposing organic matter. What part may be taken respectively by vegetable and animal matter in the production of malaria is not known, but it is impossible to conceive of miasmata arising from organic decomposition in a tropical marsh that is not a mixture of both; for low forms of animal life teem among the vegetation in such places, and the slime and ooze of a swamp drying up must contain quantities of animal matter dying and dead. This may perhaps explain the more virulent character of some miasmata, and account for varying phenomena. The miasmata given off from rocky soils, having less of the animal element, may account for differences that characterise the fevers of those regions. We must also bear in mind the influence of local conditions in determining the activity of malaria" (p. 45).

The second lecture is devoted to Indian fevers other than "continued;" the latter class being reserved for the third lecture. An important question connected with these is, however, started at this stage, its full discussion being reserved. "Enteric fever," says our author (p. 59), "occurs in India as it does in England, and doubtless owes its origin to the same specific cause, for I know no reason why it should not be so, though I recognise the difficulty of defining it; but, as I shall endeavour in my next lecture to show, all fever in India, with diarrhoea, Peyerian ulceration, and typhoid symptoms, is not necessarily caused by a specific contagium derived from faecal matter or from the intestines of another person." Fevers generally he considers to be essentially the same in India as elsewhere, differing not in nature but in degree, the differences being chiefly due to climate and surroundings. There is no Indian fever which has not occurred also in Europe.

We pass over Sir Joseph's descriptions of the various forms of intermittent and remittent fevers, and shall notice some of the more prominent points in the section allotted to *Treatment of Malarial Fevers* (pp. 104–116). It begins with a description of the treatment of intermittent fever which was practised in India in 1830 and later, and was recommended by so excellent an authority as Twining. The following are quotations from that physician:—"The benefit of bleeding, in the cold stage of intermittent fevers, is now so well known in India that I hardly need say, in a great number of cases, it arrests the paroxysm and is the best mode of preventing those ulterior visceral engorgements and indurations which too often prolong the disease till the constitution is ruined." "When the cold stage comes on, take some blood from the arm at the commencement of the rigors, or just when the coldness and shivering are completely established." "In general it is sufficient to take twelve or sixteen ounces of blood from a European of middle size; in the most robust subjects I would limit the quantity to be taken at one bleeding during the cold stage to twenty ounces. In Bengalees I find from four to ten ounces sufficient, in general, to arrest the paroxysm." Local congestions or inflammations were treated by applying leeches, "from six to ten daily to a plethoric patient in whom general bleeding had been premised." "It is frequently necessary to apply a blister and keep it open for a week." "This follows or accompanies purgatives." *Nous avons changé tout cela*—at least in Indian practice. The case of Count Cavour shows that in Europe depletive treatment for intermittent fever is not

altogether obsolete. It is certain that the mortality from malarial fevers is less now than when the heroic system sketched above was in operation. The modern treatment of uncomplicated cases of intermittent fever in India is thus described by our author:—

“An aperient consisting of colocynth and blue pill, to relieve constipation and congestion of the portal system, is generally the first and essential step. This may be followed by some saline aperient, sulphate of magnesia or soda, which it may be expedient to repeat. If there be signs of gastric irritation, coated tongue with red edges, or of a tendency to dysentery or diarrhoea, one or two full doses of ipecacuanha, 15 or 20 grains, may be desirable. During the cold stage warm drinks, warm clothing, and hot bottles or bricks are useful, and during the pyrexia cooling drinks and ice to the head if there is much pain, together with diaphoretics. . . . In the sweating stage simply rest and quiet are required, care being taken to avoid chills. Quinine should now be given, and repeated every three or four hours. . . . The diet should be light; stimulants, unless there be some special necessity, are not required. During the intervals the patient should avoid fatigue, excitement, or exposure to vicissitudes of weather; and he should continue to take quinine, after the first three or four doses, at longer intervals, say of six hours, until cinchonism begins to appear, when it may be gradually relinquished altogether. Should a second or a third attack have occurred it is well to take a dose about an hour before the onset is expected, and if the first dose of five grains have not made a decided impression by postponing or diminishing the paroxysms ten grains may be given. . . . The bowels must be kept open, not merely with the object of removing accumulation, but of relieving the portal system, liver, and spleen. Quinine will have little effect without this; with it it is most efficacious in diminishing the intensity and, in many cases, in preventing return of fever. . . . Persistent return of fever will need larger doses of quinine or arsenic” (p. 107).

So far for intermittent fever. When the type is remittent, “the most important indication is to watch for any sign of remission, which *generally occurs in the morning*, and is recognised by decrease in the pain, fever, and general suffering, and an appearance of moisture on the skin. A full dose of quinine, ten to fifteen grains in solution, should be administered.” The drug may be given hypodermically or by enema if the stomach obstinately rejects it; and to guard against “abscess, sloughing, and erysipelas, and even tetanus,” which sometimes follow the use of the hypodermic needle, it is recommended to introduce it with the aperture downwards. We confess we do not ourselves like the subcutaneous use of quinine,

however dissolved and however introduced. Solutions of the neutral sulphate of borate of quinoidine and of the sulphate in tartaric acid, are recommended for this purpose. In whatever form the drug may be exhibited it must be continued "until the symptoms abate, the remissions become more perfect, the tongue cleans, and the condition of prostration diminishes."

Quinine, however, sometimes fails to cure or to alleviate; and even in cases in which it would certainly be efficacious it may not be expedient, for economical or other reasons, to employ it. Several substitutes for quinine are in use in India; as "quinetum," in which Sir Joseph believes, though he does not hold it superior to the sulphate. Other preparations of the cinchona alkaloids are under trial, but none of them is likely to prove equal in value to the sulphate; or, in our opinion, much, if at all, superior to the old "bark" of early days. Arsenic sometimes succeeds when quinine has failed, and, so far as our own experience goes, will cure a large proportion of cases, at least of intermittent fever. Opium is unquestionably a valuable prophylactic, and, if administered in the cold stage, often cuts it short and renders the hot stage less severe. Many other drugs are used in India, both indigenous and imported, valuable in the treatment of malarious fevers, but all inferior in efficacy to quinine, and most of them to preparations of the cinchona alkaloids. Warburg's Tincture has been extravagantly praised and is, perhaps, unduly depreciated by our author; but since its extremely complex composition has been published by Professor Maclean, and it has ceased to be a secret and a costly remedy, it has become less popular outside the profession without increasing in favour within it. For the treatment of enlarged spleen Dr. Fayrer strongly recommends inunction of the ointment of red iodide of mercury, which he says, "often most successful in reducing the size of the spleen," and which rarely induces mercurialism. In Southern India we have not found this treatment so satisfactory as we hoped.

The third lecture is devoted to "fevers which are neither regarded as primarily malarial nor are of a paroxysmal character, and in their simple forms are due to ordinary causes such as produce febrile disturbance anywhere; also others, which are so closely assimilated to the malarial remittents and specific fevers, that it is difficult to differentiate them, and obviously impossible to consider them under such designations as febricula or ephemeral fever." These continued fevers occurring in India and other intertropical countries Sir Joseph classifies as follows:—"(a) Ephemeral or febricula; (b) ardent or



thermic fever; (c) endemic enteric or typhoid fever; (d) specific typhoid fever; (e) dengue; (f) typhus fever; (g) relapsing fever; (h) the adynamic contagious fever known as Pali-disease or Indian plague; (i) the specific yellow fever, should it ever appear in India, as distinct from the severe form of bilious remittent which it closely resembles" (p. 153). We can notice two only of the diseases enumerated in this list—thermic fever and enteric. The former of these, varying in severity from simple pyrexia to actual "sunstroke," is due to the action of excessive heat, solar or artificial. A large proportion of European mortality in India is attributable to this cause, fresh arrivals being more liable to attack than those who have become more or less acclimatised. Many are permanently injured, who do not immediately die, the brain or membranes having been irreparably damaged. In the treatment of the acute cases the indications are "to reduce temperature and rouse reflex action," the former being effected by cold douching from a height, the latter by sinapisms and stimulating enemata. In the thermic fever of the less acute type "the object is to reduce temperature as speedily as possible before tissue changes have been caused;" and the treatment is cold affusion or ice-applications, carried only so far as to bring the temperature to normal blood-heat. Hypodermic exhibition of quinine is recommended by some; bleeding by none, except with a view to avert suffocation, and this is very rarely necessary.

So far as regards India an entirely new controversy has arisen on the subject of enteric fever. The old one—whether specific "typhoid" poison, generated in the excreta of a previous patient, is necessary to the production of the disease, or whether sewage emanations, unspecific, are capable of generating enteric fever—is obsolete, decided in favour of the latter alternative. The new question is whether a disease undistinguishable in symptoms and pathology from enteric fever may not arise, without pythogenic origin, as a result of malaria or of climate, or of both in combination. For thirty years past the existence in India of a continued fever identical with European typhoid has been recognised. The controversy of the present day with respect to such cases cannot be better stated than in the following extract from a letter of the late Dr. Morehead to Sir J. Fayrer, which also indicates the direction towards which the opinion of the latter physician inclines:—

"You incline, if I mistake not," writes Dr. Morehead, "to the opinion that there are in India cases with the symptoms and lesions of European enteric fever which cannot be traced to a fæcal cause either on Budd's



theory or Murchison's, but which must be traced to climatic or other ordinary causes. I do not dispute it—nay, more, I shall not be surprised if it prove so. All I say is that I have seen no evidence that satisfies my judgment—nay, more, I do not think that there has been clinical investigation of a quality and to an extent to settle the question. . . . I gather that your idea is that the symptoms and lesions of enteric may be caused, and are in India, by climatic causes. I will not dispute this, and I am very much disposed to share in your anticipations on this point. But the question at this moment seems to me to stand thus:—insist upon precise clinical reports of enteric irritations, with special attention to the question of diagnosis and to causation. This ought to elicit whether they are all or in great part explicable on the sewage ætiology; if they are not, then this dogmatic ætiology will be disproved by the observation of the disease in its geographical relations" (p. 170).

As we have hinted above, our author's mind is made up. As early as 1854 he had under his care a case in which there was "protracted fever of more than three weeks' duration, attended with diarrhœa, hæmorrhage from the bowels, iliac gurgling, tympanites, stupor, sordes on the tongue and teeth, and collapse evidently supervening on perforation;" but "there was no reason to suppose" that the patient had been exposed to sewage or fæcal emanations. The weak point of the new view of Indian enteric lies here, and Sir Joseph feels it. He adds—"Of course it is impossible to prove a negative." Such are the circumstances of life in India, such the habits of the native population, and such, let us add, the carelessness in matters of conservancy and sanitation of the majority of European residents, that it is not only "impossible to prove" that in any case there has been no exposure to the admitted cause of enteric fever, but it is improbable, in the highest degree, that immunity from such exposure is attainable by any individual placed in the ordinary conditions of Indian life. Conclusive cases of enteric fever due to other causes than pythogenic poisoning must, with rare exceptions, be sought elsewhere than in India. One such instance we remember (though we cannot at this moment give a reference to the record), in which cases of genuine enteric occurred in a small body of soldiers in the United States, in circumstances which precluded the possibility of genesis from fæcal emanations.

Our author is able to fortify his view by numerous quotations from the works of Indian physicians. In the forefront, of course, is Dr. Gordon, C.B. (whom he oddly misentitles "late Chief of the Medical Service in Madras"), who is popularly believed, in the

Madras Presidency, where he was Surgeon-General of the British Medical Service, to have denied the existence of specific enteric fever altogether. From this imputation upon his common sense Sir Joseph defends him. He does "not gather from Dr. Gordon's opinions, as expressed in many reports and papers he has written, that he denies the existence of specific typhoid fever in India, or that he considers it as a new disease; but, rather, that he insists on the necessity of sifting all cases, and of examining closely into their history, with the view of ascertaining if cases recorded as enteric, thereby meaning specific fæcal enteric fever, may not have been of malarial or climatic origin" (p. 173). In the passage quoted from Dr. Gordon the fallacy of denying pythogenic origin where it cannot be demonstrated is naked enough. Dr. Chevers expresses his doubt that 571 European soldiers of the Indian Army died of true enteric fever in six years. Dr. MacConnell, whose position as Professor of Pathology in Calcutta gave him ample opportunities of connecting clinical observation with *post mortem* appearances, came to the conclusion that enteric fever identical with the European disease occurs in India, in natives as well as Europeans; that it is commoner amongst the latter than the former—young, unacclimated persons being more liable than others; that "in not a few cases the ætiology of the disease seems to differ from that usually assigned to it in Europe—viz., specific fæcal contamination, but may arise possibly from climatic causes, combined with non-specific fæcal evacuations or other like poisonous material productions, the result of unsanitary conditions in dwelling-houses, sewers, cesspools, drinking-water, and all other sources of personal human contamination. And in support of this view it may be said that the disease in this country, especially among natives, is sporadic, not epidemic; it affects individuals rather than communities, and thus exhibits a behaviour quite different to that of the specific poison and its resulting phenomena in temperate regions or climates" (p. 176).

We had marked for notice many other extracts from the published opinions on this subject of experienced physicians practising not only in India but in other tropical and subtropical regions; but we have already, we fear, outworn the patience of our readers. We shall conclude with Sir Joseph's own summary of his views of enteric fever in India:—

"In short, I believe, as I have before said, that enteric lesions are apt to come on in the course of miasmatic fever, and that in this condition they not only resemble but become identical with those of specific

enteric fever, which is caused in India as in England. If asked—Why seek for any other explanation than that accepted in this country? I reply that in India the facts are not covered by the explanation, and that there is more evidence that ordinary climatic fever may assume the typhoid—*i.e.*, enteric conditions, than that all enteric fever is caused by faecal contamination. I venture to think that this view will be taken by others who have the opportunity of extending their study to fevers in India and the tropics ” (p. 227).

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*Legal Medicine.* By CHARLES MEYMOTT TIDY, M.B., F.C.S.  
Part I. London: Smith, Elder & Co., 15 Waterloo-place. 1882.  
8vo. Pp. 636.

THIS large volume, in royal octavo, is the first instalment of a task which, the writer says in the preface, has been undertaken with a feeling of the most solemn responsibility. The subjects which this volume treats of are—Evidence; the Signs of Death; Identity; the Causes of Death; the *Post Mortem*; Sex; Monstrosities; Hermaphroditism; Expectation of Life; Presumption of Death and Survivorship; Heat and Cold; Burns; Lightning; Explosives; Starvation. The author has collated from English and Foreign literature all recorded cases having reference to the various subjects under consideration. These cases have been printed at the end of the chapter they serve to illustrate, and are referred to in the text by number only. In addition to a general index and an index of cases there is added a paged *précis* of contents in order to facilitate reference.

The subject of spontaneous combustion in the human body is one which romance has much embroidered since the subject was first seriously discussed in 1692. It is evident that the weight of authority is not in favour of spontaneous human combustion. No one of any position or authority has ever seen a case, and the fact is certain that dead bodies burn slowly after being steeped for a long time in alcohol, or even when alcohol has been injected into the veins. On the other hand, the weight of authority supports the notion of the increased combustibility of bodies under certain conditions, and in such cases the possibility of accidental ignition. From a careful consideration of the whole question the author has come to the following conclusions:—

First.—That there is no authentic case of true “spontaneous” combustion of the human body on record.

Secondly.—That there is evidence to show that the bodies of habitual drunkards, more especially if corpulent, are more than ordinarily inflammable, and hence that slight accidents, such as the upsetting of a candle, or a spark projected from the fire, might lead to the ignition of the body and its destruction by burning.

In the chapter on Personal Identity it is stated that the best-known person cannot be recognised by the clearest moonlight at a greater distance than 16 to 17 yards. By starlight the best-known person cannot be identified further off than 10 to 13 feet. A flash of lightning is in *many cases*, but by no means in all, amply sufficient for purposes of identification. The author was able on one occasion to detect a black hair-pin on the ground by a flash of lightning, and to pick it up when the next flash came. Recognition by the *flash of fire-arms* of a person firing is possible if the observer be within five paces of the discharge and at the side of the line of fire, or if the discharge occurred in a close place of small dimensions and the observer occupied a stooping position. Recognition is affected by the quality of the powder used—the best English powder, as giving the brightest flash and least smoke, being that from the explosion of which recognition is the most certain.

When identity is to be determined by photographs, it is essential that the negatives themselves should, if possible, be called for and produced, the prints being comparatively valueless as evidence, owing to the tricks that a skilful photographer or toucher-up can play with them. For example:—A volume of smoke appeared in a print as issuing from a chimney, and was used as evidence of the existence of a nuisance, when no smoke existed in the original negative.

In the chapter on Life Expectation there are many hints useful to those interested in life insurance. It may be worth while remarking here, that where a medical man is appealed to by an insurance company respecting the health of one of his patients desiring to insure, leaving the insurers out of the question, justice to the insured, to the survivors, and to himself, demands that he should report without a shadow of concealment. Unless he is prepared to do this, he had far better decline to report altogether. Further, he is not justified in reporting as the private medical adviser of the person whose life is in question, unless he has the authority of his patient to do so.

The author concludes his chapter on Evidence by quoting the advice given by Sir William Blizard (a former surgeon of the

London Hospital) to his pupils:—"Be the plainest men in the world in a court of justice. Never harbour a thought that if you do not appear positive you must appear little and mean. Give your evidence in as concise, plain, and yet clear a manner as possible. Be intelligent, candid, and just, but never aim at appearing unnecessarily scientific. State all the sources from and by which you have gained your information. If you can, make your evidence a self-evident truth. Thus, though the court may at the time have too good or too mean an opinion of your judgment, they must deem you an honest man. Never be dogmatic, or set yourselves up for judge or jury. Take no side whatever, but be impartial, and you will be honest."

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*Practical Treatise on the Diseases of the Uterus, Ovaries, and Fallopian Tubes.* By A. COURTY, Professor of Clinical Surgery, Montpellier. Translated by AGNES M'LAREN, M.D., M.K.Q.C.P.L. With Preface by J. MATTHEWS DUNCAN, M.D., LL.D., F.R.S.E. London: J. & A. Churchill. 1882. 8vo. Pp. 810.

THIS is a translation of the third edition, somewhat revised and abridged for this purpose by its author, of a work already well known to specialists in this country. For some time Professor Courty's book has held its place, now divided with De Sinéty's, as one of the best exponents of French gynæcology. The translation is done by a lady-pupil of his own; and both the author and translator are introduced in a brief preface to the favourable notice of his professional brethren by so critical an authority as Dr. Matthews Duncan. We think, however, that the work done in this preface, which covers little more than one side of a leaf, scarcely entitles Dr. Duncan to so large a share of the title-page. Why do not Professor Courty and Dr. Agnes M'Laren speak for themselves?

The work itself is a bulky, closely printed, and freely illustrated volume, reminding us, in its general appearance, in the ground which it covers, and in many of its borrowed woodcuts, of Dr. Barnes' widely read treatise on the same subjects. It is divided into three parts—the first an introduction on the anatomy, physiology, and teratology of the female organs of generation; the second consisting of a general survey of uterine diseases; and the third dealing in detail with the various individual diseases of the

uterus and its appendages. In a brief critical notice of a work like this we can only indicate some of those points which have struck us most forcibly on reading it.

The introduction on anatomy and physiology is lengthy, but contains nothing new. We object altogether to these ordinary anatomical descriptions, which so often fill up much valuable space in treatises on special subjects. Bookshelves which contain standard works on anatomy and physiology need not be further burdened with needless repetitions. A knowledge of these subjects ought to be assumed in the reader of special works, which should contain only what Dr. Barnes has called the "applied anatomy" and physiology of the organs treated of. This objection applies, but is not special to the work under present consideration. A marked example of what we mean is to be found in the treatment of such subjects as the position and relations of the normal uterus (pp. 16 *et seq.*). No mention is made of Schultze's views regarding the normal form and position of the uterus, or of the physiological modifications which are being continuously caused by the varying conditions of surrounding viscera; no notice is taken of the results obtained by frozen sections; and the engraving which shows a vertical mesial section of the female pelvis is of an old, and, we had hoped, outworn type. Of its ligaments it is said that "some suspend the uterus by its fundus and by its sides, others by its neck"—hardly an accurate mode of expressing the relationship which exists between these peritoneal folds and the uterus. Suspension implies a certain amount of dragging, and most surely the uterus does not normally drag upon its so-called ligaments. The anatomy, structural or otherwise, of the pelvic floor receives nowhere in this chapter any definite notice. The section on teratology is fuller than in most similar works.

The general symptomatology of uterine diseases is fully dealt with. We are not prepared, however, to agree with Professor Courty that digestive troubles are symptomatic of diseases of the body rather than of the neck of the uterus; or that hysteria may be excited by functional derangements of the generative organs, but is one of the rarest accompaniments of their actual disease. The sections on physical diagnosis by means of the speculum and sound are not so good. Under the head of "Specula" the use of Marion Sims' duck-bill speculum is properly preferred to all others, but the explanation of how to use it is wanting in clearness.



Indeed, we doubt whether anyone could properly manage this instrument without a knowledge of the *rationale* of its action, and without first placing the patient in the one suitable position. The Fergusson's speculum is recommended as being convenient for reaching a retroverted cervix, a convenience which, as a matter of fact, seems open to doubt. Its handiness, cleanliness, and, above all, the protection which it affords to the vaginal walls during the application of caustics to the uterus, give to this instrument a popularity somewhat disproportioned to its usefulness in diagnosis. The uses of the sound in ascertaining uterine mobility and sensitiveness are omitted from the list of points on which it informs us. The difficulty which may sometimes occur during the removal of laminaria tents, tightly gripped by the os internum, makes Professor Courty prefer the use of sponge-tents for purposes of dilatation. Sponge-tents may, however, be so gripped, though to a less degree, besides which they have some special disadvantages of their own. No mention is made of Tait's, Hegar's, or other similar dilators.

The chapter on general methods of treatment is exhaustive and strongly marked by the author's individuality. The importance attached in some cases to hydropathy, mineral waters and baths, and among local measures to the use of acupuncture will be mostly new to readers of modern English text-books.

As regards the ætiology of uterine diseases Professor Courty is not in accord with any of the many authors who seek to find it in a single local lesion. He enumerates carefully the different causes which may predispose to, or excite disease, laying special stress on the "localisation of diatheses." The exact nature of these diatheses is not defined with sufficient clearness, though the whole of this chapter on the characteristics, causation, and classification of uterine disease is one of the most interesting in the work.

We are unable to notice separately each of the chapters which deal with uterine diseases in detail. Here the reader, previously acquainted with some standard work on the subject, will find much that is new and interesting—the outcome of Professor Courty's great clinical experience. Treatment, especially therapeutical, is dwelt on at more than usual length. Indeed, the author exhibits throughout the work an uncommon faith in the efficacy of drugs—a faith which does not altogether fail him even in the cure of ovarian cysts. He has seen resolvent treatment (chlorides of gold and sodium, tonics, diuretics, abdominal fric-



tions and compression) succeed in two such cases. Operative measures are not so fully or so clearly treated of. The condition of a lacerated cervix is not separately considered, nor is Emmet's operation for its cure mentioned—a grave omission, considering the importance which at present attaches to this lesion and its cure. Writing of the operative resources in carcinoma of the uterus, “amputation of the supravaginal portion of the cervix, and, still more so, extirpation of the entire uterus,” are rejected as useless and dangerous. No mention is made of the recent operations of Freund or Schroeder, the former of whom removes the entire uterus, in certain cases of cancer, by abdominal incision, and the latter through the vagina. So far the results obtained by the vaginal method, with an immediate mortality of under 30 per cent., would seem to entitle it to careful consideration in selected cases. The symptomatology and diagnosis of the various diseases are always considered at a length commensurate with their importance.

The translation of the work is fairly done, though in many places the English does not run smoothly, and we are forced to think twice as to the meaning of a sentence. This want of clearness results not rarely from an undue crowding of many ideas into a single sentence. As a marked example take the following:—

“*Epithélioma of the Vaginal Portion of the Cervix.*—The first modification made in the normal form and structure of the cervix by the development of epithelioma on its vaginal portion is the alteration of its surface, which becomes irregular, being covered with numerous elevations, irregularly developed, situated like granulations round the orifice, or on one of the lips, always more on one lip than the other, although adjoining the orifice, having the appearance of papillary hypertrophy, affecting the epithelial element much more than the dermis of the papillæ, and presenting a striking analogy with epithelioma developed on other parts of the body, especially at the natural orifices, the vulva, anus, eyelids, and, above all, round the mouth—in fact, with the usual form of buccal, and particularly labial cancer.”—(P. 698.)

No wonder if our senses reel under such a sentence, which, however well the fluid French language may have rounded its angles, is inexcusable in an English translation.

In deference to the established reputation both of the author and his work we would have preferred to have given to it a more extended consideration. We are sensible that in a brief notice

like the present many of its most meritorious characters are necessarily left untouched, and that an undue prominence may appear to be given to what seem to us to be its defects. The work is, however, that of one of the most experienced and distinguished representatives of French gynæcology, and as such must needs commend itself, in its original or translated form, to the attention of specialists in the subjects of which it treats. To such as these its defects will be more than neutralised by its clinical richness and therapeutic suggestiveness. But it is not by any means suitable as a student's text-book, nor can we advise the general medical man to pin his faith to it in matters of practice. The latter may, however, find useful room for it as a work of reference among his other books.

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*Materia Medica and Therapeutics. Inorganic Substances.* By C. D. F. PHILLIPS, M.D. London: J. & A. Churchill. 1882. Pp. 820.

EIGHT years have elapsed since Dr. Phillips published the first instalment of his treatise, dealing with the medicinal products of the vegetable kingdom. As some explanation of the long interval between it and the present volume, it should be mentioned that in 1877 Dr. Phillips had the misfortune to meet with a serious railway accident, which disabled him from exertion for upwards of two years. The work before us is arranged upon a similar plan to the preceding one, which was favourably noticed in this Journal, August, 1875, and we hope that Dr. Phillips will be enabled to fulfil his programme, and to complete his valuable treatise by a third volume on the organic compounds—alcohols, ethers, &c.—used in medicine. The author's style of composition is agreeable, his facts are skilfully marshalled and judiciously utilised, and his book can be cordially recommended as an admirable exposition of the present state of knowledge, and as a welcome addition to the practitioner's library.

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*Tablets of Materia Medica and Therapeutics.* By C. E. SEMPLE, M.B. London: Baillière, Tindall, & Cox. 1882.

ANOTHER of these mischievous hindrances to real learning, often miscalled *Aids*, and which unfortunately are in such demand by students. They deserve nothing but condemnation, and it is

surprising that medical authors of respectable position will condescend to allow their names to appear on the title-pages of publications of this stamp.

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*On the Morbid Conditions of the Urine, dependent upon Derangements of Digestion.* By C. H. RALFE, M.D. London: J. & A. Churchill. Pp. 148.

THERE can be no doubt that due chemical examination of the urine affords us much insight into the nature of the metabolic changes occurring within the body; and physiological chemistry, applied in this direction, has done a good deal to elucidate pathological problems. In the present work, which is largely a reprint of papers published in *The Lancet* during the last five years, Dr. Ralfe considers "those urinary derangements which are the result of chemical changes occurring within the body as distinct from those morbid conditions of the urine which are directly associated with disease of the renal organs, or of the genito-urinary passages, or those which, like diabetes and temporary albuminuria, are the result of disturbance of the circulation in the hepatic and renal vessels." Passing by this self-imposed limitation, which appears to be an arbitrary one, and to rest upon a very questionable basis, we find the contents of the book disposed under these heads—viz., the formation and removal of acid from the body; dyspepsia, associated with an acid or alkaline condition, respectively, of the urine; and derangements, associated with deposits of uric acid or of oxalate of lime, and with excessive elimination of phosphoric acid. It is evident that the author has paid much attention to the subject, and he has carried out several experimental investigations upon urinary pathology. But the general impression left by reading the book is that we are not much wiser than before about the pathology of dyspepsia, and we cannot help thinking that some of the author's cases are far from convincing. It, moreover, engenders a feeling of distrust when we meet with misprints and mistakes in chemical formulæ, and with errors in spelling common words and names—*e. g.*, *Appolinaris* (three times on one page), *Woolaston*, *irridescant*.

The iridescent film, by the way, often seen upon the surface of urine, does *not* consist of crystals of ammonio-magnesian phosphate, but of calcium phosphate.

We would like to know why, in some of the formulæ, each element

is isolated from its neighbour by a comma—*e. g.*, Na,H,CO<sub>3</sub>, 4 Na,Cl, &c.—for, upon this plan, some of the formulæ, if strictly read, represent impossible combinations.

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*Clinical Lectures on Diseases of the Nervous System.* By THOMAS BUZZARD, M.D. London: Churchill. 1882. 8vo, pp. 466.

THE lectures contained in this volume do not form a complete treatise on nervous diseases, but they deal, as the author believes, from no narrow standpoint, with some of the most interesting affections of the nervous system. They are eminently clinical, as every point is illustrated by details of cases recorded in an exceedingly graphic manner. It will be impossible for us to do more than to indicate a few of the most important features of some of the chapters. We can, however, recommend the work to the attention of our readers as a storehouse of interesting and valuable information.

The first two lectures are on tendon reflex. The author, notwithstanding the evidence to the contrary, inclines to the view that this is a reflex phenomenon, and very ingeniously explains how, in cases where it is absent, we may ascertain the point at which the interruption in the nervous arc occurs.

The next two lectures deal with the subject of infantile paralysis and acute anterior poliomyelitis in the adult. A case is recorded which presented many of the symptoms of infantile paralysis, but was rapidly cured by purgatives and regulation of the diet, and which was probably caused by deposition of uric acid in the cellular tissue between the large muscles of the lower limbs, whose movement was thus impaired and rendered painful. Cases are given of paralysis of the face in infantile paralysis, due probably to an affection of the nucleus of origin of the facial nerve, similar to that which usually occurs in the spinal centres. The author thinks it not unlikely that many cases of sudden death in children are due to an affection of the medulla oblongata, of the same kind as that which attacks more commonly the anterior grey horns of the spinal cord. He disapproves of voluntary efforts to move a limb the muscles of which are unequally strong, since the attempt to move the partially paralysed muscles is always accompanied by a contraction of their antagonists, which frequently only increases the deformity.

In the next lecture, on the differential diagnosis between certain

hysterical conditions and myelitis, we find the sagacious remark—“You cannot cure a case of hysteria so long as you have any serious doubts about its nature. On the other hand, I think that if you are able to be quite certain on this point, and are prepared to act with sufficient energy, there are few cases that will not yield to treatment. The kind of treatment does not appear to be of so much consequence as its impressiveness.”

The succeeding lectures, from the sixth to the fifteenth inclusive, deal with locomotor ataxy, or, as the author prefers to call it, *tabes dorsalis*.

Very great diagnostic value is placed on the absence of patellar tendon reflex, while the contractile power of the quadriceps extensor muscle on direct stimulation remains good. The peculiar pains and the absence of the knee reflex are considered as sufficient by themselves to justify the diagnosis of tabes. Some very valuable remarks on the diagnostic significance of pain in the head, whether in the region of the fifth nerve or in that of the great occipital, will be found in the seventh lecture. The pains are believed to be due to sclerosis, affecting the parts of the medulla at the origin of these nerves. Dr. Buzzard finds it by no means uncommon to have a temporary or permanent loss of power in the muscles of the lower limbs in cases of tabes, and he thinks that Duchenne, in exposing the difference between this disease and paraplegia, has over-estimated the extent to which muscular power is preserved in locomotor ataxy.

On the important question, which has been so much discussed recently, whether tabes is a syphilitic disease, the author thus sums up his opinion:—“Whilst it appears to me incontestable that there is a remarkable frequency of association between syphilis and tabes dorsalis, I do not think, all things being considered, that the time has yet arrived for us to draw safe inferences as to the precise nature of the relation.”

From his own very large experience, and from the cases recorded by Charcot and others, the author finds that the gastric crises of tabes occur with extraordinary frequency in cases which present also the peculiar affection of the bones and joints which are known as tabetic arthropathy. He looks on the gastric symptoms as due to sclerosal change at the nucleus of origin of the pneumogastric nerve, and suggests the possibility of the existence of a trophic centre for the bones and joints in this neighbourhood. He points out how such an arrangement might throw light on the combina-

tion of the articular symptoms of acute rheumatism, and the occasional tendency to high temperature, as well as the cardiac complications of this disease.

The gastric symptoms often precede for many years the inco-ordination of movement. It is suggested that many cases of "gout in the stomach" are really cases of tabes with gastric crises and lightning pains.

Passing over, for lack of space, several chapters, we find in Lecture XX.—on spastic paraplegia from myelitis—the following remark, which seems of much value. Speaking of a case of meningo-myelitis, which he believed to be syphilitic, although there was no clear history of venereal disease, the author says, "I have long expressed the opinion that certain lesions of the nervous system, when taken along with their behaviour under specific treatment, afford evidence of syphilis which is as strong as the coppery hue of one skin eruption or the serpiginous character of another."

Lecture XXIV., on phenomena of transfer produced in epileptic patients by the application of encircling blisters, is of much interest in connexion with the transfer of anæsthesia and other symptoms under the influence of magnets, metals, &c. In patients whose fits were preceded by an aura in one of the limbs it was found that the application of a blister encircling the limb above the seat of the aura had the effect of removing this aura or transferring it to other parts. There was little or no uniformity in the mode of transfer. "In three cases there was either tickling or tingling in an arm; in one, under the influence of the blister, this disappeared altogether; in another it was transferred to the leg of the same side; in the third both hands and one leg were convulsed. In one instance a sense of numbness in the left wrist was transferred to the right wrist; in another numbness and shaking of the left leg were transferred to the right leg; whilst in another cramp in the right hand or right leg went on to affect both hands." And so on with other cases.

Without explaining these phenomena, the author thinks "it may be legitimately inferred from the occurrences that we have the power, by the application of a local irritant to the skin, of occasioning molecular changes in the cells constituting that nervous centre in the cortex to which impressions are conveyed by centripetal nerves proceeding from the portion of the skin influenced." Acting on this view, the author has blistered the skin

of the paralysed arm, and faradised with a wire brush the same part, as well as the lips and tongue in cases of right hemiplegia with aphasia, in the hope of influencing the speech centre on the left side. He has adopted similar applications on the left side of the body, together with gymnastic movements of the left arm and hand, in the hope of giving that *dexterity* with which the faculty of speech is so closely associated, and educating the right side of the brain. The results, however, have not been very encouraging.

In the last lecture, on the diagnosis of lead palsy, the great importance of electrical examination is dwelt on, and illustrated. It is also pointed out that, in persons who carefully attend to the cleanliness of their teeth and gums, the blue line may be absent, although they may suffer from lead-poisoning, while in those of dirty habits, and who work at lead-mining or smelting, the blue line may be present, although the health may remain excellent.

The few extracts which we have made from these lectures will give some idea of their great interest. We recommend them again most cordially to all our readers.

*Nature de l'Influence de l'Innervation sur la Nutrition des Tissus.*

Par le DR. E. LAHOUSSE. Bruxelles: Henri Manceaux. 1882.

8vo. Pp. 315.

THIS work has been written in answer to the following question, proposed by the Royal Belgian Academy of Medicine, as subject for competition:—"Déterminer la nature de l'influence de l'innervation sur la nutrition des tissus." The author has received from the Academy a prize of 500 francs for his essay.

He has collected with great care every scrap of information, whether physiological or pathological, which bears on his subject, and his reasoning on these facts is, if not always conclusive, at least interesting and ingenious.

He maintains strongly the existence of special nerves which exert an influence on the nutrition of the anatomical elements. The evidence for the existence of these nerves is mainly pathological, but the author thinks it an exaggeration to say, as is so often done, that physiology gives no support to this evidence. He thinks that the experiments of Meissner and Schiff, on the alterations of the cornea which follow partial section of the trigeminus nerve, as well as many others, strongly support the view which he holds. He protests against laying too much weight on the



objection that the physiologist has not yet succeeded in demonstrating anatomically trophic nerves. "We cannot any more distinguish anatomically between sensitive and motor nerve fibres—their functions only serve to differentiate them. After all, why do we admit motor nerves? Because contractility proves motility. And why sensitive nerves? Because an impression proves a sensation. Why, then, should we not admit trophic nerves when we see a nervous action involve directly a trophic alteration?"

He thinks that the action of the trophic nerves on the tissues is direct and not exerted indirectly by vasomotor influence. He admits the difficulty of defining the nature of the action; but, while not denying a stimulating influence, he thinks that the moderating action preponderates, since, on removal of nervous influence from a part, the trophic phenomena are generally those of hyperactivity or irritation.

There is nothing known of the effect of stimulation of trophic nerves. All the disturbances of nutrition of nervous origin have followed sections or other kinds of interruption of the nerve fibres, and in cases like herpes zoster the phenomena may be as well referred to an abolition as to an exaltation of nervous influence. Of reflex disturbance of nutrition too little is known to lay down any propositions on the subject.

The centres of the trophic nerves of each part are probably situated in the neighbourhood of those for its motor and sensitive nerves, consequently they are found mostly in the gray matter of the spinal cord.

We cordially recommend this essay to any of our readers who take an interest in the important subject with which it deals.

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#### BORIC ACID IN THE TREATMENT OF BOILS.

DR. GARRIGUES states that recently he has employed a paste of boric acid in a number of cases of boils on the face and neck, invariably with the most satisfactory results. The combination he uses is the following:—Powdered boric acid, 4 grammes (3i.); Vaseline, 20 grammes (3v.); Benzoin powder, 0·50 centigrammes (gr. 7½). This ointment is perfectly non-irritating, and can be preserved indefinitely. The boric acid should be incorporated directly with the vaseline, and not first dissolved in glycerine or alcohol, or it will cause irritation.—*Journ. de Méd. de Paris*, Sept. 23, 1882, and *Medical News*.

PART III. THE BOSTON  
HALF-YEARLY REPORT OF THE  
SOCIETY FOR  
MEDICAL  
OBSERVATION

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REPORT ON PUBLIC HEALTH.\*

By C. A. CAMERON, M.D. ; S.Sc.C., Cambridge ; M.K.Q.C.P.I. ;  
Fellow and Professor of Hygiene and Chemistry, Royal College  
of Surgeons in Ireland ; Chief Medical Officer of Health for  
Dublin ; Hon. Member of the Societies of Public Medicine,  
Paris, Bordeaux, &c., &c.

PERIODICITY OF SCARLET FEVER.

THE subject of the periodic increase of scarlet fever is treated at some length in the admirable Annual Report (for 1881) of Dr. John W. Mason, Medical Officer of Health for the Town and Port of Kingston-upon-Hull (population, 155,160)—a report of which, *en passant*, it may be said that it is one of the most comprehensive and well-arranged publications of the kind issued in the United Kingdom. The average annual number of deaths caused by scarlet fever in Hull during the last fourteen years has been 52. In the year 1881 there was an epidemic, and the deaths were distributed over the four quarters of the year as follows :—First quarter, 14 ; second quarter, 35 ; third quarter, 229 ; fourth quarter, 404 ;—total, 682. In Hull it seems that scarlet fever is generally most prevalent in the third and fourth quarters of the year, and has a tendency to rise to a maximum about every fourth year. In most of the families in which the disease appeared the cases were multiple, and, as has been noticed elsewhere, mild and malignant cases were side by side. In 326 cases the duration of the illness was recorded : in 31 of them there was a fatal termination on or before the third day ; in 92 cases, within a week ; in 70 cases, within from one to two weeks ; in 80 instances, within from two to three weeks ; and in 53 cases, after a longer period than three weeks.

The following table is given in Dr. Mason's Report, and is one which will be regarded with interest:—

\* The author of this Report will be glad to receive any books, pamphlets, or papers, relating to hygiene, dietetics, &c. They may be forwarded through the agencies of this Journal.

TABLE 1.—Showing the Number of Deaths that have occurred from Scarlatina during the Ten Years 1871 to 1881, in 18 Large Towns in England.

BOROUGHs	Estimated Populations in middle of year 1881	Deaths from Scarlet Fever in 52 or 53 weeks in each year										Annual Rate of Mortality per 1,000		Scarlet Fever and Deaths Rates	
		1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	10 Years 1871-80	1880	1881	1881
Leeds, -	310,483	108	146	628	664	231	320	151	253	281	126	1.04	.41	77	.24
Sheffield, -	285,619	325	189	228	972	312	278	209	724	356	269	1.37	.95	77	.26
Bradford, -	184,085	144	81	47	288	459	143	106	156	181	189	1.10	1.05	119	.64
Hull, -	155,122	65	29	36	184	279	58	31	20	78	61	.62	.40	681	4.39
Liverpool, -	554,073	630	222	215	1,911	468	251	225	947	742	465	1.17	.85	435	.78
Birmingham, -	402,314	127	409	586	741	271	204	234	993	311	122	1.08	.31	165	.41
Manchester, -	341,173	260	357	545	495	325	343	366	346	336	327	1.07	.96	96	.28
Bristol, -	207,522	173	23	39	22	457	284	45	36	90	239	.73	1.17	154	.74
Norwich, -	138,087	43	18	5	2	34	59	80	11	32	188	.55	2.16	64	.34
Nottingham, -	187,964	28	5	11	49	159	74	19	73	180	134	.57	.74	353	1.87
Salford, -	177,762	60	78	127	156	251	178	119	185	203	279	1.08	1.63	84	.47
Newcastle, -	145,811	39	109	466	258	76	51	69	222	282	135	1.25	.94	50	.34
Portsmouth, -	128,372	30	5	11	35	47	447	39	16	11	8	.54	.06	25	.19
Leicester, -	123,146	112	5	6	23	172	168	33	8	87	92	.66	.77	152	1.23
Sunderland, -	117,048	190	114	28	136	60	134	134	185	246	305	1.42	2.67	143	1.22
Oldham, -	112,176	35	525	120	72	68	110	56	238	138	126	1.59	1.16	84	.74
Wolverhampton, -	75,963	23	70	124	84	26	59	224	40	17	42	.92	.56	56	.73
Plymouth, -	73,925	28	10	1	9	14	14	48	37	14	4	.25	.05	4	.05
18 Towns, -	—	2,420	2,395	3,223	5,751	3,709	3,175	2,188	4,490	3,585	3,111	—	—	2,819	—
Average, -	—	134	133	179	319	206	176	121	249	199	173	—	—	156	—

Amongst the sanitary measures taken in Hull in 1881 to lessen the ravages of scarlet fever was the closing of the schools. It seems that this measure produced good results. It is pleasant to learn that in the School Regulations just issued by the English Education Department, there is one which provides that schools shall be closed at the request of the sanitary authorities, should the latter deem such a step necessary during the presence of an epidemic. The school managers have, however, the right to appeal to the Department should they consider the demands of the sanitary authorities unreasonable. In Ireland, a similar regulation should be enforced by the Commissioners of National Education.

Dr. Mason points out forcibly that, owing to a want of "official notification of disease," the epidemic of scarlet fever became widely spread and beyond control.

#### REFORM IN HOSPITAL ADMINISTRATION.

A valuable paper on the subject of the reforms desirable in the administration of hospitals, was read at the Social Science Congress at Nottingham in September, 1882, by Dr. T. Gilbert Smith, Assistant-Physician to the London Hospital. The paper contained a large number of interesting statistics, relative to the hospitals of London, and some valuable suggestions for an improved administration of those institutions. Although the author dealt exclusively with the London hospitals, his paper is one which will be read with interest by hospital physicians in all parts of the United Kingdom. It will be published *in extenso* in the forthcoming volume of the Transactions of the Social Science Congress. It appears that in the metropolitan district 66 hospitals minister to the wants of about  $4\frac{1}{2}$  millions of people. The revenue of these hospitals, and of 122 other institutions in which sick persons are treated, amounts to £650,000 per annum. They are irregularly distributed, a large majority of the general hospitals being situated within a radius of a mile and a half of Charing Cross. In North London, which contains a population of 908,000, there is only one general hospital. In the hospitals and workhouse infirmaries (but excluding lunatic asylums) there are about 30,000 beds available for non-infectious cases and accidents, and 1,474 for contagious diseases. The following tables will be found useful to those who may desire to compare the hospital accommodation of their towns with that of London :—

TABLE 2.—*Showing Return of Beds; average Number of Beds daily occupied; Number of In-Patients and Out-Patients treated at the Metropolitan General Hospitals during 1880.*

HOSPITAL	Number of Beds	Average Number of Beds occupied daily	In-Patients	Out-Patients, Casualties, &c
St. Bartholomew's, - - -	668	559	6,432	172,432
Guy's, - - -	650	506	5,189	60,404
St. Thomas's, - - -	572	365	4,081	78,742
St. George's,* - - -	351	279	3,543	15,095
Middlesex, - - -	810	247	2,545	28,329
King's College,* - - -	205	169	1,712	14,069
University College, - - -	208	171	2,789	22,184
Westminster, - - -	200	154	2,003	17,682
Charing Cross, - - -	150	124	1,477	19,003
Royal Free,* - - -	150	88	1,360	23,812
1. Total within 1½ miles of Charing Cross, - - -	3,459	2,662	31,131	451,752
2. { In Northern London (Great Northern), - - -	33	28	850	9,352
The London, - - -	790	550	6,312	55,765
Metropolitan Free, - - -	20	20	275	46,295
Total in East, - - -	810	570	6,587	102,060
St. Mary's, - - -	190	179	2,126	19,313
West London, - - -	42	36	555	22,737
Total in West London, - - -	232	215	2,681	42,050
Total in London, - - -	4,534	3,475	40,749	605,214

Of special hospitals there are 10 for diseases of children (557 beds), 5 for eye-diseases (196 beds), 4 for diseases of the chest (482 beds), 4 for deformities (165 beds), 4 for incurables (292 beds), 3 for affections of the throat and ear, of which 2 have 46 beds, 5 maternities (167 beds), 3 for diseases of women (75 beds), 2 for diseases of women and children (47 beds), 2 for skin diseases (26 beds), 2 for epilepsy and nervous disorders (130 beds), 2 for cancer (115 beds), 2 Lock hospitals (208 beds), 1 each for accidents (50 beds), convalescents (130 beds), fever (260 bed), fistula (50 beds), diseases of the heart and paralysis (20), smallpox (108 beds), stone (16 beds), and for invalids (30 beds).

\* Partially closed for repairs for some portion of the year.

**TABLE 3.—Showing Name and Area of Parish; Population in 1881; Number of Persons per Acre; Number of Hospitals in each Parish; Number of Hospitals to the Square Mile; and the ratio of Beds to the Population.**

PARISH	Area of Parish	Population in 1881	No. of Persons per Acre	No. of Hospitals to the Square Mile	Ratio of Beds to the Population
	Acres				1 to
Battersea, - - -	2,973	107,248	36	1 to 4·7	282
Bethnal Green, - - -	755	127,006	168	1 to 0·9	221
Bow, - - -	568	37,060	66	1 to 0·9	82
Camberwell, - - -	4,450	186,555	42	1 to 2·3	170
Chelsea, - - -	796	88,101	111	1 to 0·2	71
Clapham, - - -	1,137	36,378	32	1 to 1·8	650
Deptford, - - -	1,574	84,641	54	1 to 2·5	257
Fulham, - - -	1,716	42,895	25	1 to 2·7	179
Greenwich, - - -	1,741	46,623	27	1 to 2·7	189
Hackney, - - -	3,297	163,620	50	1 to 1·3	218
Hammersmith, - - -	2,287	71,916	31	1 to 3·6	1,199
Hampstead, - - -	2,248	45,436	20	1 to 1·8	136
Islington, - - -	3,107	282,628	91	1 to 0·8	180
Kensington, - - -	2,190	162,924	74	1 to 1·1	234
Kingston, - - -	4,824	36,345	8	1 to 7·5	242
Lambeth, - - -	3,941	253,569	64	1 to 1·2	164
Lewisham, - - -	5,774	53,053	9	1 to 9·0	135
Mile End Old Town, - - -	679	105,573	156	—	—
Newington, - - -	632	107,831	171	1 to 1·0	107
Paddington, - - -	1,251	107,098	86	1 to 0·6	274
Plumstead, - - -	3,388	33,252	10	1 to 5·3	156
Rotherhithe, - - -	753	36,010	48	1 to 1·2	200
Saffron Hill, - - -	30	6,514	217	1 to 0·05	271
St. Andrew's, Holborn, - - -	96	19,326	201	1 to 0·15	55
St. Anne, Soho, - - -	54	16,591	307	5 to 0·08	108
St. Bartholomew the Less, - - -	4	819	205	1 to 0·006	1
St. Clement Danes, - - -	53	11,085	209	1 to 0·01	55
St. George, Hanover-square, - - -	1,119	89,517	80	1 to 0·56	214
St. George, Southwark, - - -	284	58,652	207	1 to 0·1	138
St. George in the East, - - -	243	47,011	193	1 to 0·4	153
St. Giles in the Fields, - - -	123	28,595	232	1 to 0·2	1,144
St. James, Westminster, - - -	162	29,865	184	1 to 0·3	1,422
St. John, Westminster, - - -	211	35,482	168	1 to 0·3	2,959
St. Leonard, Bromley, - - -	608	64,345	106	—	—
St. Luke, - - -	239	46,847	196	1 to 0·09	—
St. Margaret's, Westminster, - - -	604	24,604	40	1 to 0·9	114
St. Martin in the Field, - - -	286	17,447	61	1 to 0·2	76
St. Marylebone, - - -	1,506	155,004	103	1 to 0·27	286
St. Olave, - - -	47	3,047	65	1 to 0·1	9
St. Pancras, - - -	2,672	236,209	88	1 to 0·7	197
St. Saviour, Christchurch, - - -	77	13,656	177	1 to 0·1	1,517
St. Saviour, Surrey, - - -	126	14,972	119	1 to 0·4	43
St. Stephen, - - -	27	1,799	67	1 to 0·04	18
Shadwell, - - -	68	8,004	118	1 to 0·1	89
Shoreditch, - - -	648	126,565	195	1 to 0·3	165
Spitalfields, - - -	78	21,341	292	1 to 0·01	534
Stoke Newington, - - -	638	22,780	36	1 to 1·0	759
Wandsworth, - - -	2,433	28,005	12	1 to 1·9	24
Whitechapel, - - -	170	30,704	181	1 to 0·1	21

Dr. Smith advocates the greatest attention to every detail of hospital sites, construction, fittings, and appliances. He suggests that their administration should be vested in boards composed of men acquainted with the workings of such charities, and upon which the medical and surgical staffs should be adequately represented; that a Common Council, representing all the metropolitan hospitals, should be established; that a controlling authority should be established, vested with strong powers in relation to the construction and administration of hospitals. If these suggestions were adopted, there would be three distinct governing and consulting bodies; the intermediate one seems to be unnecessary. It would be sufficient to have a committee for each hospital, and a supervising board for each district of sufficient size. The latter should exercise the same kind of power in relation to the hospital committees that the Local Government Board for Ireland does in reference to the Boards of Guardians. The hospital board which supervises the Dublin hospitals is not possessed of sufficient control over these institutions.

The support which Dr. Smith gives to the proposal to establish a Metropolitan Ambulance Brigade, for the purpose of the removal of sick and wounded persons to hospital, is what might be expected from so earnest a humanitarian. Third-rate American cities have their Volunteer Ambulance Corps, and they are no mere show corps—they do good work, and mitigate much human suffering. Many who meet with accidents have their wounds made fatal by the rough way in which they are conveyed to hospital.

The Council of the National Association for the Promotion of Social Science have carried out a resolution arrived at by the Social Science Congress at the Dublin Meeting, 1881, by adopting the following Memorial to the Home Secretary:—

“1. That your memorialists have had their attention directed to the question of the administration of metropolitan hospitals, and the other institutions for the medical treatment of the sick, and have, by public discussions held under the auspices of the Association, in which those well qualified from their position and experience to join have taken part, and by other modes of inquiry, arrived at the conclusion that reforms are desirable in the existing system of administration.

“2. That your memorialists have agreed upon the following resolutions:—

“I. That the hospital accommodation of London is imperfectly distributed, and, in many districts, altogether inadequate.



“II. That the want of organisation and co-operation among the medical institutions of the metropolis materially lessens their usefulness, and leads to unnecessary expense.

“III. That the present system of indiscriminate relief injuriously affects the independence and self-reliance of those who are able to meet, in some degree at least, the cost of medical and surgical treatment.

“IV. That the funds at present available, either for proper maintenance of nearly all the existing institutions, or for the extension of relief to districts hitherto unprovided for, are very insufficient.

“V. That the hospitals are managed (some of them under Acts of Parliament) on very different systems, and some of these systems can hardly be worked consistently with the advance which has been made in medical science, and with the change of opinion which is taking place regarding the administration of medical charity.

“VI. That it is desirable to make more use than is at present made, in the education of medical students, of the materials contained in the numerous hospitals and dispensaries now administered by the Poor Law Department and the Metropolitan Asylums Board, and that there should be more intimate communication between these and the general hospitals.

“VII. That the operation and constitution of the numerous special hospitals and dispensaries demand inquiry, in order to inform the public as to the advantages and disadvantages of such institutions.

“VIII. That it is desirable that a uniform system should be devised and adopted of keeping the books of accounts and registers of diseases in all hospitals.

“3. That your memorialists, whilst anxious to disavow the intention of adopting any recommendation in favour of compulsory Government control or management of voluntary hospitals, are not less desirous of expressing their opinion that a favourable time has now come for the institution of a full and impartial inquiry into the accommodation afforded by, and the present system of the management and administration of, the metropolitan hospitals and the other institutions for the medical treatment of the sick.

“4. That your memorialists venture to accompany this memorial with a statement of some of the reasons on which the above resolutions have been based.

“Your memorialists therefore humbly pray that her Majesty may be pleased to issue a Royal Commission to ascertain fully the

needs of the metropolis in the above respects, with a view to obtain reliable data upon which to base such reforms as may be necessary, and to make such recommendations as may appear to it desirable.

"And your memorialists, &c.

"(Signed)

G. W. HASTINGS,

"President of the Council.

"May, 1882."

#### INFANT MORTALITY.

At the recent meeting of the Social Science Association at Nottingham, Dr. Thomas H. Dolan read an interesting paper on the mortality of infants caused by the employment of their mothers in factories. On the same occasion Mr. Taylor, Inspector of Factories, read a paper in reference to the employment of women in factories, and its effects upon the death-rate of factory towns. In Dr. Dolan's paper the chief argument was the necessity for restricting the period of work of child-bearing women. He stated that according to his experience as a medical practitioner in Halifax, the majority of child-bearing women employed in the factories of that town resume work within a fortnight after their confinement. When the mothers return to their work their infants are usually consigned to the charge of old women, by whom they are often improperly fed and otherwise mismanaged. The result of this treatment is the widespreading of such diseases as marasmus, tabes, and other wasting diseases. Dr. Dolan also condemns the common practice of women working up to the eve of their confinement.

M. Jean Dolphus, a manufacturer in Alsatia, ascertained that the mortality of the children of his female operatives was 40 per cent. during the first year of their existence, whilst only 18 per cent. of the children of that age born in the district died. He resolved to pay every child-bearing woman in his employment six weeks' wages at the period of her confinement, and during those six weeks she was not allowed to work. The result was that the mortality of the infants of the operatives declined from 40 to 25 per cent.

Mr. Taylor's paper was nearly altogether statistical, and it sought to prove that the death-rates were not higher in factory towns than in non-factory towns of the same size. He deprecated further legislation in reference to the restriction of the hours of labour of women and children. If we compare the death-rates of the northern towns of Ireland, in which large numbers of female

operatives are employed, with the towns in the southern half of the country, in which there is little or no employment for women in factories, the comparison will be found favourable to the former. The fact is, that poverty and a high death-rate go hand-in-hand in towns at least; therefore the substantial addition which the earnings of the factory female workers make to the revenue of the household more than compensates for the evils which are incidental to the employment of women in factories.

#### ÆTIOLOGY AND PROPHYLAXIS OF TYPHOID FEVER.

The numbers of the *Annales d'Hygiène Publique* for Sept. and Oct., 1882, contain an elaborate report by Dr. Jules Arnould, Professor of Hygiene at the Faculty of Medicine, Lille, on the Ætiology and Prophylaxis of Typhoid Fever, and which was read at the International Medical Congress at Geneva in September, 1882.

Typhoid fever destroys from 2 to 12 per 10,000 of the population of the towns of both hemispheres, and nearly as many of the population of the rural districts. It affects most the younger portion of the population, and soldiers suffer from the disease in a ratio five or six times greater than the general population. In modern armies the mortality caused by typhoid fever reaches from 10 to 30 per 10,000 of the men on active service.\*

It is admitted that typhoid fever is a specific disease. "To-day specific disease is," says Dr. Arnould, "synonymous with germ disease. Chauffard proclaimed the specific nature of the disease, but held that the virus might be spontaneously developed in the human subject, under certain circumstances. Yet Chauffard did not consider himself a believer in spontaneous generation. He regarded the morbid germ as the virtual representative not of a being but of a mode."

The opinions of Chauffard are the most elevated as well as the most precise exposition of the theory of a spontaneous and autochthonous typhoid fever created solely by the human economy, external agents playing no other part than that of imparting to it its vital modality. But this theory, beautiful as it may be, does not clear away the obscurity that surrounds the *modus operandi* of those outer agents. If the organism plays a sovereign part in the breaking out of a disease, towards what surrounding circumstances will the student of prophylaxis turn his attention—towards the air,

\* Statistischer Sanitäts-Bericht über die königl. preussische Armée, und das XIII. Armée-Corps Rapport für die vier Jahre vom 1 April, 1874, bis an den 31 März, 1878.

the soil, the water, the food, or the offensive matters? What, then, becomes of hygiene!

Other medical authorities are to be found in the school of spontaneity, but with a marked distinction. According to these authors the specific agent is generally outside man, but is developed spontaneously in some putrid medium, out of which it comes to infect the system. There is no good reason why this agent should not be called "miasm," or even "germ," provided that such a term does not imply an organised germ—a living thing. All those who adopt this conception stop short of spontaneous generation. They are not very explicit as to the nature and properties of this specific agent, but they all agree that, once introduced into the human body, the once infectious agent may become contagious—that is to say, that, generated outside man, it finds in the system the conditions favourable to its multiplication and its reproduction. "Typhoid fever," says Léon Colin, "is generated *spontaneously* by infection, and specifically by contagion. Hence the name of infectio-contagious given to this disease, to express in one word this manner of understanding its general etiology. In this school may be included the following authorities:—

(a.) Murchison, the author of the pythogenic theory—very opposite to the true contagious theory—of typhoid fever. Here is its definition—typhoid fever can spring up independently of a former case by the fermentation of fæcal matters, and perhaps by the fermentation of other forms of organic matter.<sup>a</sup>

(b.) Léon Colin, one of the men who have most carefully studied typhoid fever from its epidemiological point of view.<sup>b</sup>

M. Colin's theory is even more comprehensive than Murchison's, and probably the most comprehensive of all the theories which are founded on spontaneity. The genesis of typhogenic agents can take place, according to him, not only in excremental foci, but in all centres of animal putrefaction, and in putridity itself, without precise designation, which are generated by overcrowding of individuals; but one of these circumstances may act alone, or all of them bear conjointly on the case..

(c.) Professor Jaccoud, who, in the discussion which took place in 1877, at the Academy of Medicine, brought together 106 cases, collected from 1865 to 1875, to militate in favour of the theory of the "fæcal origin" of typhoid fever. True that, later on, after an

<sup>a</sup> Murchison (Charles). *A Treatise on the Continued Fevers of Great Britain.*

<sup>b</sup> Colin (Léon). *Traité des Maladies Epidémiques.* Paris. 1879.

interview with Pasteur, he modified greatly his opinion as to the classification of those cases, and throw overboard the theory of Murchison, of whom at first he seemed a follower.

It is easy to see that this theory, which at first seems to differ from Chauffard's doctrine, in locating outside the system the medium in which is generated the specific agent—i. e., the putrid foci—has also to admit the power of the system to elaborate this specific agent in cases where the putrid focus is not to be found, or its existence is problematical. Then it is supposed that a circumstance of an undefined character—mental depression, for instance—caused the delay of putrid materials in the digestive canal. This putrid focus, though internal, is virtually foreign to the system, as it was destined to be eliminated. The infectious agent develops itself then as it would have done in a water-closet.

Some savants have refused to recognise bacteria and vibrions as the toxic agents of putrid substances. In 1853, A. Stich proclaimed that any fæcal matter, even proceeding from a sound animal, contains a putrid poison which would poison the animal itself if introduced into its veins. Introduced into the stomach, it is not poisonous unless derived from an animal of another species, or from a sick animal of the same kind. When introduced into the stomach in small repeated doses this matter produces intestinal lesions similar to those present in typhoid fever. Panum (1874) and Arnold Hiller (1875-76) have, by different means, obtained from putrid liquids and meat poisons which do not contain microscopic organisms. The putrid poison found by Hiller presented this peculiarity—that it reproduced itself in the animal, and that its noxious properties increased from generation to generation in the subjects. At the tenth generation,  $\frac{1}{128}$  of a drop of this poison in glycerine was sufficient to kill a rabbit after fifty-two hours. The pathological symptoms were fever, dyspnœa, diarrhœa; the lesions were inflammation of the intestines, of the liver, of the prostate, and of the kidneys. These appearances are yet very distinct from those of typhoid fever, which, besides, belongs exclusively to our race. The operators themselves did not claim to have discovered the typhogenic agent. Yet, admitting that their experiments are correct, it is not totally illogical to admit the genesis of typhoid fever in putrid foci as well as the formation, by purely chemical phenomena, of a poison which several menstrua could carry into the system. Sander admits this theory, and in all cases refuses

to admit the parasitic theory in diseases proceeding from putridity. Speaking of typhoid fever he always uses the word *Gift* (poison), and never *Keim* (germ). Unfortunately for this theory, typhoid fever, clinically speaking, does not assume the appearance of poisoning; besides, the ptomaines found in putrid albumen (A. Gautier, Selmi) might give the solution of the experiments of Panum and Hiller. They are not, it is true, micro-organisms, but they give rise to diseases very distinct from infectious diseases. It is now almost impossible to look upon typhoid fever as anything but a parasitic disease, therefore non-spontaneous. For the future the basis of all discussions will probably be a germ, real and invariable, totally foreign to the system, whose introduction and multiplication in our tissues and our blood are the more or less direct causes of clinical disorders, and towards which the system fulfils the office of a nutritive menstruum.

In the field of natural observation the origin of the new dogma is traced to the facts of typhoid contagion, so clearly observed by Gendron, Piedvache, W. Budd, &c. In the domain of experimentation and researches in micro-botany this dogma has been from the first a conclusion deduced from facts obtained from the history of some maladies belonging more essentially to other kinds of animals.

It is evident that the want of susceptibility in animals to contract malarial infections or typhoid fever is a cause of distrust in receiving the results that have been brought forward by operators who think that they have imparted to rabbits the specific agent of malaria, such as Klebs and Tommassi-Crudeli, or the agent of typhoid fever, such as Birch-Hirschfeld, Jules Guérin, and more recent writers. As to the results, apart from the death that occurs and the presence of bacteria in the organs, the diseases generated have very little resemblance to malarial or typhoid fever. So many kinds of parasites have been found in typhoid cases that we doubt the allegation that the true *Bacillus typhosus* has been isolated. With respect to the forms of the parasite, Letzerich has described *micrococci* either isolated, in colonies, or in chains, very dissimilar to those of diphtheria and infectious pneumonia, but which, by cultivation, reach a size twice or three times greater than the *micrococci* of the last-mentioned diseases, and says that the typhoid chains are twice as long and more than twice as large. Klebs, on the other hand, describes the *Bacillus typhosus* as large-sized filaments of 50 micromillimetres in length and 0.2 micromillimetres in breadth, without segments or ramifications.

When the spores make their appearance, the filaments may reach a half-micromillimetre. The spores are ranged in a line, and very close. Before reaching this state the *Bacillus typhosus* is in the shape of small rods, which may also contain spores. The mutation to the form of filament is prepared by a staff of little rods devoid of spores.

Robert Koch thinks that the bacilli, large and short, of Eberth are the only ones which seem to have a specific connexion with the disease. According to him the elongated bacilli of Klebs belong to the putrid parts, and to the class of innocuous bacteria which are developed in ground prepared by pathogenic bacteria, as the author has observed them in a case of charbon in man.

*Seat of the Parasite.*—Letzerich states that he has recognised the typhogenic micrococci in blood in an isolated state, then in connective tissue, and in the parenchyma of the liver, in the kidneys, in the walls of the intestines, in the cells of folliculi, in the prostate, in the lungs. Klebs finds his *Bacillus typhosus* in the Lieberkühn glands, and in the connective tissue that surrounds them. He has found it once in the meshes of the pia mater, in the lungs, and in the kidneys. He thinks that there are bacilli in all Peyer's patches as long as the process is developing itself. Eberth finds those specific corpuscles in the thickness, and not the surface, of the glands and the prostate—Koch in the kidneys, the liver, and the prostate. The pathogenic organisms have been observed by Eberth only in half the cases, and it seems that they are to be found rather during the period of the increase of the disease than at its apogee.

It is unfortunately always on rabbits that experiments are carried on in reference to the pathogenic effects of typhoid microzymes. Brantlecht, with from  $\frac{1}{2}$  to  $\frac{3}{4}$  cubic centimetres of liquid of cultivation, has produced, by subcutaneous injections on rabbits of a certain age, most of the typhoid symptoms. But, strange to say, the bacilli found during the summer in green pond waters give the same results, and as to bacilli found in typhogenic waters they lose at last their specific properties by cultivation. Professor Letzerich has cultivated in gelatine micrococci obtained from the evacuations and sputa of typhoid patients, and supposes them to be the microbe of typhoid fever. On introducing them by inoculation into rabbits, he has obtained the same results as Brantlecht.

Klebs gives an account of three sets of experiments conducted



by his pupil, Dr. Chomjakoff, in which typhoid bacilli have been injected into the peritoneum of rabbits. The animals exhibited immediately an elevation of temperature which attained its maximum on the third day. They all died on the third or fourth day—in two instances from diarrhoea. The lesions were—redness and tumefaction of Peyer's glands, increase in volume of the spleen, cellular infiltration of interstitial tissue of tumefied patches. The presence of micrococci was doubtful, but the peritonitis was in an inverse ratio of the cultivation. The only conclusion that can be arrived at from those experiments is this—In a certain number of cases of typhoid fever micro-organisms are found in the blood, in the tissues and in cases of organs, which are absent in the normal state.

After all, in a medical point of view, the botanical form and individuality of typhogenic microbes have much less importance than their origin and pathological effects. Those organisms modify their form spontaneously, and according to the medium in which they live (Ray Lankester, A. Giard, Tokker, Naegeli, &c.). Why should they not change their properties in changing their habitat? P. Gravitz thinks he has obtained, by cultivation of ordinary moulds — *Eurotium* and *Penicillium* — products of two distinct orders, morphologically identical, but one of them constituting the pathogenic mushroom, very poisonous, while the others can circulate with impunity through the blood of animals.

Dr. Fessinger has obtained similar results; and from the effects produced on rabbits this author goes so far as to suggest the possibility of typhoid fever being generated by ordinary mould, whose spores would have become noxious by spontaneous cultivation.

Buchner holds that he can bring, by sufficient culture, the charbon bacteria to the hay bacteria, and *vice versâ*. A. Wernich (Berlin) asserts the identity of this saprophyte, which infests the human large intestine, with the typhus desmobacteria met with by Klein, Klebs, and Eberth, in the intestinal glands and the organs attacked in a secondary manner.

Dr. L. Poincaré gives, in the *Annales d'Hygiène Publique* for June, 1882, a report on the epidemic of typhoid fever which raged in Nancy during the months of Dec., 1881, and Jan., 1882. One of the typical features of this epidemic consists in the fact that the subjects who left the centre of infection either in the period of incubation or during the course of the disease, gave a higher percentage of mortality than those who were treated in the town. As far as he could ascertain, the former did not spread the contagion.

From the very defective sanitary arrangements of the town, it was impossible to trace home the real cause of the present outbreak. Yet, from the class of people who suffered most, it is to be inferred that the sewers played the most important part in causing this calamity.

**The public school or Lycée gave 18 deaths out of 53 patients.**

A female school	„	7	„	52	„
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**In Nancy 532 patients gave a mortality of 59.**

Women, especially of the servant class, suffered far more than men, and this will be explained by giving a cursory sketch of the sewerage arrangements in connexion with the houses.

- 1. The water-closets empty themselves into the sewers.**

2. Almost everywhere the junction of the private sewers with the mains is defective.

- 3. The sinks and water-closet drains are unprovided with syphons.**

Hence, far from being a source of security against the spreading of diseases, they are actually a connecting link between the affected houses and those not yet attacked.

The persons most exposed to the emanations are the servants who are constantly making use of the sinks, and the high temperature of the kitchens creates a draft which brings up the air from the main. Acting on the suggestion made by Dr. Vallin in 1881, on the desirability of finding the contagium vivum of typhoid fever, Dr. Poincaré made active researches in the blood, excrements, and muscles of the diseased. Dr. Vallin pointed out the possibility of this germ being a parasite of the order classified by Mégnin as pseudo-trichinæ. The fact of trichinæ giving rise to symptoms very similar to those of typhoid fever, gave to that theory a certain weight. All the results of observations made in that direction and with that object turned out negative.

Dr. Poincaré thinks that the researches would be greatly simplified by generating the disease in animals. But up to this they have resisted the action of the contagium, the only effect produced being similar to ordinary septic poisoning. Peyer's patches have remained sound, and consequently no true typhoid symptoms have been produced.

## LEAD IN POTABLE WATER.

Two remarkable cases in reference to the poisonous action of potable water containing lead have recently attracted much attention—the first occurred at Huddersfield, the second at Keighley.

At the Leeds August Assizes, 1882, Mr. John J. Milnes, solicitor, sued the Corporation of Huddersfield in the sum of £5,000 for injury caused to his health by reason of the defendants supplying him with water impregnated with lead. The plaintiff swore that he had lost his health through, as he believed, lead-poisoning; and the medical evidence given on his behalf was to the effect that his ultimate complete recovery was doubtful, and, even if it did take place, it would be at a very distant date. The jury found for the plaintiff, assessing the damages at £2,000; but the case as to the liability of the Corporation is to go before the House of Lords. The chemists examined for the plaintiff were, Messrs. Fairley of Leeds, Allen of Sheffield, and Jarmain of Huddersfield, whilst for the defence Professor Odling of Oxford, and Dr. Tidy and Mr. W. Crookes of London, were produced.

Messrs. Allen and Jarmain stated that they had found that the Huddersfield water in the district in which Milnes resided took up in a single night from 0·5 to 0·8 gr. of lead per imperial gallon, and that these amounts of metal were found in the water which had remained all night in the water-pipes in Mr. Milnes' house. It appears, according to the observations of Messrs. Allen, Fairley, and Jarmain, that a portion of the water supply of Huddersfield contains a free mineral acid. Some years ago Mr. Jarmain pointed out the existence of this free acid, the origin of which he traced to certain ochreous springs in which there was free sulphuric acid. The presence of free acid in water would of course cause the latter to take up lead from the service-pipes or lead cisterns. Professor Odling and Messrs. Crookes and Tidy were, however, of opinion that the presence of free sulphuric acid in water would, by forming sulphate of lead, be rather a protective agent than otherwise in the case of potable water. The sulphate of lead is a very insoluble salt, and would coat over the surface of the lead service-pipe. Mr. Allen has, however, since the trial, published in *The Analyst* for October, 1882, the results of experiments, which go to prove that water containing sulphuric acid dissolves lead pretty freely. Sheffield pipe-water (a moorland soft water) took up a mere trace of lead (from 0·05 to 0·1 gr. per gallon), but with 1·12 gr. of sulphuric acid (calculated as  $\text{SO}_3$ ) per gallon in the water, 0·28 gr. of lead was dissolved; and when 5·6 gr. of acid were added, the lead dissolved amounted to 4·9 gr. per gallon. Mr. Allen believes that the acid in the Huddersfield water was not sulphuric acid, but hydrochloric acid, produced by the action of the free sulphuric

acid from the ochreous springs upon the chlorides present in the water. Chloride of lead is very much more soluble than sulphate of lead.

The second case of alleged poisoning by the use of lead-impregnated water took place at Keighley, in Yorkshire. The person affected was a Mr. Wilson Riley, machinist, who had been drinking the soft water supplied by the local board of Keighley. He had blue gums, constipation, colic, and convulsions—terminating in death. At the inquest, which terminated on October 3, 1882, Drs. Tuck and Dobie deposed that they believed the deceased had died from lead-poisoning. Mr. Allen proved that he had found 0·61 grain of lead per gallon in the water which had stood all night in the service-pipe in deceased's house. In the liver and spleen of the deceased he had found lead in small quantity—not more than  $\frac{1}{4}$ -grain. Iodide of potassium had been given to the deceased for ten or twelve days, and this salt may have helped to eliminate some of the lead from the system.

Dr. Tidy appeared for the Keighley Board, and gave some evidence which has excited a considerable amount of comment. He stated that in all the numerous cases of alleged lead-poisoning which had come under his observation, lead-poisoning was not the proximate cause of death; that in some cases it had preceded death for some time. He had never met with a case of chronic lead-poisoning in which there was not paralysis. He stated that he found 5 grains of lead in the spleen and 4 grains in the liver of a man who, though previously under hospital treatment, had met his death by a street accident. Dr. Tidy appears to have been under the impression that the deceased had not shown symptoms of paralysis during his illness, though, from the report of the proceedings at the inquest, it would appear the deceased's arms were paralysed.

The jury found that the deceased had died from granular disease of the kidneys, but they could not positively state from what cause. They, however, believed that it was accelerated by lead-poisoning.

In 1870 Dr. John Ringland consulted me in reference to the following case:—He had under treatment a family, six in number, all of whom were affected with severe colic, slight paralytic symptoms, and occasional diarrhoea. Three of them had the well-marked "blue gum" indicative of chronic lead-poisoning. The family used water taken from a stone cistern cemented. I found nevertheless

that the water contained  $\frac{1}{4}$  grain of lead per gallon, and further investigation discovered that the stone cistern enclosed a very old leaden one, which had been largely corroded by the action of the water (soft rain water). One of the patients (a child) died—the others soon recovered when the use of the water was discontinued.

#### THE GERM THEORY OF PHTHISIS.

It has long been a popular notion that phthisis is a contagious disease. The contagiousness of this formidable malady has been asserted by many physicians. In 1868–69 Dr. Burdon-Sanderson made some experiments with reference to the inoculation of tubercle which gave some remarkable results. At the present time both medical and non-medical writers are interested in this theory, owing to the wide-spread publicity given to the experiments on tuberculosis made by Dr. Robert Koch, of Berlin. In the *Berliner klinische Wochenschrift*, No. 15, 10th April, 1882, Dr. Koch announced that he had discovered and isolated a parasite which appeared to be the cause of tuberculosis. The parasite was described as a pod-shaped bacillus, about the same size as a blood corpuscle. It is almost always solitary, being seldom found in pairs, and never in masses (zoogloea). It is found in all tubercular deposits. The stain which confers on the tubercle bacillus a blue colour causes the other micrococci which may be associated with them to assume a brown hue.

Koch was able to propagate the parasites of the tubercle. When they were introduced into the blood of rabbits and guinea pigs they produced tuberculosis in those animals. Introduced into the blood-serum of sheep, which had been sterilised by the application of a high temperature, they developed, by the tenth day, vast numbers of small points and scales (*trocken aussehende Schüppchen*). This infected material was found, when introduced into the abdomen of animals, to cause enlargement of the adjoining glands, and a development of tubercle in the liver, spleen, and other organs. It is remarkable that in many cases inoculation with matter taken from scrofulous glands did not induce tubercle. The tubercle parasites taken from human miliary tubercle were cultivated in animals, semi-liquids; and after several generations, so to speak, had been produced, the latest descendants of the parasites were found to be infective. Baumgarten's and Watson Cheyne's recent experiments in reference to tubercle have given results which appear to confirm those arrived at by Koch. Dr. William

Thompson, of Yarra-Yarra, Melbourne, Australia, has published a monograph\* in reference to the parasitic theory of phthisis, in which he directs attention to the fact that, in 1876, he had advocated this theory in his work, "The Histo-Chemistry and Pathogeny of Tubercle." He considered that specific micrococci would operate by producing the aggregation of giant cells so as to form a tubercle—first grey, then yellow. "In this mass of epithelial *débris* the minute bodies of the microzymes are embalmed, or buried, as it were, in the ruins they produced." This sentence certainly is very similar to the observation made by Koch:—"It was in the highest degree impressive to observe in the centre of the tubercle cell the minute organism which had created it."

Dr. Thompson has certainly established a claim to be regarded as one who, before the accurate life-history of the tubercle parasite was discovered, had come to the conclusion that such an organism really existed, and was the actual *materies morbi* of the most deadly disease affecting man.

#### EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA, MODIFIED BY THE PRESENCE OF A CILIO-RETINAL ARTERY.

MR. ARTHUR BENSON, of Dublin, in a recent article in the *Royal London Ophthalmic Hospital Reports*, Vol. X., Part III., relates a case of embolism of the central artery of the retina, where an oval portion of the retina, between the disc and the yellow spot, was saved from the destruction which overtook the retina elsewhere. This portion of the retina was supplied by an arterial twig from the ciliary vessels; not, as is usual, by one from the central artery of the retina. The case is, as far as he is aware, the first on record, in which the presence of such an anomalous artery had been productive of such a happy result. He considers the case remarkable:—(1.) For having occurred in a healthy person in whom no cause could be discovered. (2.) For the existence of a cilio-retinal vessel. (3.) For the extraordinary sharpness of the line of demarcation between the œdematous retina round the macula, and the normal patch to its inner side. (4.) For the rapidity (less than three days) with which fatty changes occurred in the retina. (5.) For the complete re-establishment of the circulation. (6.) For the subsequent unusual appearances in the region of the yellow spot, and in the extreme periphery. (7.) For the rapid restoration of sight while using electricity. (8.) For the possible help the case may give in determining the blood supply in certain cases.

\* The Germ Theory of Phthisis Verified. By William Thompson, F.R.C.S. Melbourne: Sands and M'Dougall. 1882.

THE BOSTON  
SOCIETY FOR  
MEDICAL  
OBSERVATION

PART IV.  
MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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AN ADDRESS INAUGURAL OF THE SESSION OF 1882-83.

Delivered in the Theatre of the Meath Hospital and County  
Dublin Infirmary, Monday, November 6, 1882.

By PHILIP CRAMPTON SMYLY, M.D., Univ. Dubl., F.R.C.S.I., a Surgeon  
to the Hospital.

GENTLEMEN,—It is my pleasing duty to welcome you here to-day, and to thank our visitors for so kindly coming to encourage us by their presence, to tell our students what we intend to do for them, and what we expect them to do for us.

In the name of the Medical Board I can assure you that we will do all we can to teach you what we know. We expect you to learn from us what you can, always bearing in mind that there is much in medicine and surgery that cannot be explained to the ignorant, and that there is much room in every branch of our knowledge for differences of opinion.

The hospital is, in the first and noblest sense, "God's house." It is the place to receive God's poor, to relieve their sufferings, to fit them to go forth with renewed health and strength to fight the bitter battle of life again. In the second sense, and equally important, it is the "house of wisdom"—the place where you are to learn the duties of your life. In town or country—wherever your lot may be cast—you will ever lament every opportunity of observation you may have missed in your hospital.

There may be various opinions as to the best means of securing a good education, or of the means of testing the knowledge of the student. There is no difference as to hospital work—*C'est à force de forger qu'on devient forgeron*. There are few subjects you cannot read up in the endless books if you miss a lecture. No reading can teach you how to use your eyes and hands, your ears and nose.

It is well known in the artistic world that you only see what you are taught to see; the ignorant eye sees nothing. A gentleman was driving on an outside car enjoying an exquisite prospect—mountains, trees, and



a wide expanse of sea. He exclaimed in his delight—"What a charming view! I never saw anything more beautiful." "Yes, sir," said the driver, "it does one's heart good to see it—it's the finest after-grass I've seen for years."

Since we parted last summer great changes have taken place, not only in this hospital, but also in the profession. In the hospital our Standing Committee have expended a large sum of money in improving the sanitary condition of the house. Not long since every ward was in direct communication with the main drain, and our patients were constantly suffering from erysipelas and other forms of poisoning from bad air. Now the sanitary arrangements have been removed outside into two towers, so that there can be no further danger from the drains. The ventilation has been also much improved; there is a free circulation of fresh air day and night.

It is very curious the almost universal horror there is to night air even among medical men. It was reserved for Miss Florence Nightingale to teach "that the only air that can be breathed at night is night air, and that it is better to have it pure than charged with carbonic acid and other impurities."

We have now a pure and clean house, bright and well-ventilated wards. The exclusion of the sun from the sick room is almost an article of faith, and yet modern research proves that sunlight is inimical to the development of bacteria and the microscopic fungi associated with putrefaction and decay. A recent writer concludes a very interesting paper on this subject with these words:—"From these researches it is evident that to put a patient suffering from an infectious disorder in a darkened room is to lessen his chances of recovery" (Paper read by M. D. Makuna before the Royal Med. Chir. Soc., 9th May, 1882).

The full acceptance of antiseptic surgery is also a great step in advance. We may hope to see a succession of operations this Session free from the horrors of blood-poisoning. Sneers and jeers have nearly ceased, and the loudest of the doubters have declared themselves converts to Listerism. To Professor Lister is due this great improvement. As Professor Stokes so well puts it in his address to the British Medical Association at Worcester—"Those who advocate and practise what they are pleased to term a 'modified antiseptic system' attempt, in fact, in a roundabout, clumsy, inefficient way, to do precisely what those who practise Listerism achieve by means which are the outcome of accurate scientific research."

The stethoscope was at one time called a penny whistle, the laryngoscope a German toy, and words failed to express the absurdity of using the thermometer. These are all now in daily use, and it will be so with Listerism; for whether an efficient substitute be found for the carbolic spray or not, to Lister the praise is due for the blessings of

antiseptic surgery. The names of Pasteur, Lister, and Koch, will ever be remembered with gratitude by the surgeon of the future.

A most important change has taken place since we last met in medical education—in fact, a revolution. The Royal College of Surgeons has instituted a new mode of examination. Instead of one final examination on most complicated and various subjects, they have in their wisdom instituted sessional examinations. In this way the process of testing the student's knowledge is brought into immediate contact with the process of teaching, and the substitution of practical for theoretical courses of lectures. I hope this course will be more fully carried out, and the yoke of compulsory attendance on lectures removed from the neck of the much-enduring student.

I will ask you to give me your attention while I read a portion of a letter I received from the late Professor Porter, father of our own distinguished surgeon, when I was in Germany in 1861. He had just been appointed representative of the College of Surgeons on the General Medical Council, and asked me to find out all I could in Berlin and Vienna about medical education. He says—"Since I commenced making inquiries on the subject of education, it is astonishing the quantity of information I have been enabled to collect, but all tending to the one point—namely, that instruction is everywhere offered in the way of lecture, and is nowhere accepted in that form. There may be some difference as to the taste and style of doing things, according to the peculiar habit of each country—as, for example, I hear of one Professor who enforces his precepts by the very effective process of cursing and swearing, but the result is the same everywhere—the boys will not sit and listen for an hour to a dull and prosy talker for the sake of information which they can obtain or they think they can obtain on more agreeable terms. The fact is that the world in rolling on has rolled lecturing out of use, and consequently out of fashion. Time was when ours was literally a learned profession, all the mysteries of which were wrapped up and concealed from vulgar eyes in volumes of Latin and Greek, which required some scholarship to translate and some brains to understand, and when any one was kind enough to extract the meaning out of these, and, putting it into intelligible language, deliver it in the form of a course of lectures, no wonder the young men should eagerly avail themselves of a system of instruction that saved them such a world of trouble. Hence the lecture came to be the established mode of teaching, and has held its ground, although the circumstances that gave occasion to it have long since passed away. Now we have books as plenty as blackberries, and authors as plenty as the bushes they grow on. It is perfectly obvious that as the literature of our profession changed, our mode of imparting it should have changed also; and as we did not do so, the pupils took the law in their own hands and adopted a

system for themselves which is so agreeable and so easily worked that they will certainly maintain it until forced to give it up for something better. I suspect this can only be done by the examination."

It has taken twenty-one years to begin to do what this great man saw was the right thing. This view of the subject of lectures is not that of a Professor who had failed in his vocation. The late Professor Porter was one of the most successful lecturers. The Theatre of the College of Surgeons and this Theatre in which we meet to-day were always full when he taught. His audience consisted not of students only, but of many who had been long in practice. He never had to call a roll to secure an attendance at his lectures. His phraseology was as charming as his teaching was valuable. The well-conducted examination is the true method of securing a certain amount of education.

Mr. Marcus Beck says, in a recent address before the University of London—"I believe as long as the present irregular system of education is followed by so large a number of students, while we expect students to understand the most complicated mechanism in creation without a knowledge of mechanics, and to understand the eye and ear without optics or acoustics, or respiration without knowing the laws of atmospheric pressure, while we expect him to understand the chemistry of digestion almost before he knows the difference between an element and a compound, I do not think we can hope for any real improvement in the results of the examinations. It is, I believe, only by a better preparation in science and by a rearrangement of medical examinations in accordance with the laws of scientific education, so as to train the student to think and to think well, that we can hope to get any real improvement."

This is what the College of Surgeons has in view. The change consists in setting down definite subjects to be learned during the year, and the result to be tested by examination at the end of each term. It is a great mistake to imagine that passing your final examination is the end of your education. Once a student, always a student. You must be always learning. The object and end of examinations are to secure a small amount of knowledge of necessary subjects, so that having the A B C you may go on and learn, and be able to apply your learning as it may be required.

It is said "a little knowledge is dangerous," and "half knowledge" has been condemned in no sparing terms. Hear what Prof. Virchow, one of the most learned men in Europe, says of half knowledge—"With respect to this I may well affirm here, in the very midst of the conference of students of nature, that *all* human knowledge is but fragmentary. All of us who call ourselves students of nature possess only portions of natural science. None of us can come here and with equal accuracy represent every department, and take part in the discussions of

each. On the contrary, the reason why we esteem individual Professors so highly is precisely because they have developed their knowledge in a certain one-sided direction. Would that we could only succeed in diffusing this half knowledge more widely!"<sup>a</sup>

In the new regulations French or German may be substituted for Greek, and in Physics the subject is limited by mentioning the book; the same holds good in the other branches of the various examinations. These changes are a great boon to the student, and will be a great help to him in making up his work.

The College now accepts the examination of the Board of Intermediate Education as satisfactory evidence of preliminary education, provided the subjects selected by the pupil are those required by the General Medical Council.

It has been the fashion to abuse and run down a certain class of teachers—the so-called grinders. It is neither right nor just to do so; they are the result of the system, and though now and then they deserve the blame of pitchforking a man into the profession who ought to have handled a spade, they have done a good work, and will continue to do good work for many years.

Hospital attendance is not compulsory in the first year, but it is recognised in the evidence of having spent one year in the study of medicine. I would urge you in the most earnest terms to begin at once with your hospital. Though you will not be examined at the end of the term in clinical work, still you are educating your eye and your other senses; you are every day gaining what the late Dr. Stokes used to call the medical habit of mind. Never miss an opportunity of hospital work. When the session is over, and you return to your homes, attend whenever you can those valuable institutions—the county infirmaries and fever hospitals—provided as they are with men of talent and experience, often ready and willing to teach as well as to permit you to learn. Whatever else you leave undone, do not neglect your hospital. For convenience of teaching and of treating disease, our wards have been divided into surgical and medical, accident and children's; I may also add the convalescent wards at Bray, so generously given by Lord and Lady Brabazon. These to the zealous student should prove attractive, inasmuch as that the interest in a case does not cease when the danger is over.

The examinations in clinical work are now of a most practical kind. You cannot be too attentive. Watch how your teacher sets about making his diagnosis. The very way in which a man looks at and handles his patient shows whether he is at home at the bedside. Note everything, but do not be hasty to condemn. In medicine and surgery there are many ways of doing and saying the same thing. Some men always follow

<sup>a</sup> The Freedom of Science in the Modern State. 1878.

one line of practice and become routinists—so that the bottles might be labelled with the name of the disease instead of that of the drugs; others are always trying new things, and do not wait to prove anything. These men burn their fingers. Be slow to give up anything that is good; be quick to accept what you see to be successful.

It is well to remember that the truisms of one generation were the great discoveries of former generations, and that what is accepted by everyone requires no proof. Thus the means by which these discoveries were made are forgotten. In this way some medical men have been tempted to join in the howl against experimental physiology.

Sir George Jessel, the English Master of the Rolls, quoted by Professor Stokes, well remarked that “there are two things the public require to be instructed in—one that the future progress of medicine must rest on science; and the other the necessity for experiments on animals.”

Though no experiments on animals have ever been made in our hospitals, much of our teaching is founded on the facts thus obtained. I therefore hope that none of you will join in the abuse which is heaped upon the heads of the great and good men who have devoted their lives to the study of physiology. It is not unusual to speak of the “Art and Science” of our profession. I would wish to impress upon you that these terms are by no means antagonistic, but, on the contrary, complementary to each other. Art cannot be developed without science, and science without art is of no practical value.

Learn the science and apply your knowledge as you gain it. Then your knowledge will stay with you, and you can use it again. Watch everything, study the healthy as well as the diseased, compare one with another. The attitude into which a child throws itself is often so characteristic that a diagnosis may often be made from the attitude alone; and anyone who has studied disease of the brain knows the importance of the expressions of the face. In lockjaw the most characteristic symptom is the peculiar grin. Never be content with a partial examination. A patient was once brought to Dr. Stokes by a doctor under whose care he had made no improvement. The patient had a large liver and was very ill. After the examination the doctor asked what were the patient's prospects? “Not many days to live. Both lungs are extensively diseased.” “Lungs diseased! I never thought of his lungs!”

In surgery you cannot be too careful in making your examination. A too hasty or superficial examination may get you into great trouble, and involve great suffering and injury to your patient. This is the case too often in fractures and dislocations. Even experienced men may make very serious mistakes. Do not be hasty to condemn. The youngest can find fault; the most experienced may make a mistake. In surgery there are many ways of attaining the same end, and with equally good results. One may use the knife where another likes caustic or sticking-plaster

better, as in the treatment of anthrax. One may use the tenotome to divide a contracted tendon or a painful ligament, where another thinks tearing or wrenching, under the influence of an anæsthetic, gives a better result. Whatever method you see used, study the results, and adopt what you feel you can do best yourself. Ever remember that what you remove in surgery you can never replace. Sir James Paget puts it very well—

“Never be actively useless.”

To succeed in your profession you will require many qualities in addition to mere medical knowledge. General culture is absolutely necessary. There are laws no college can enforce, no university can command—“laws,” as one of our Viceroy's well said, “no Parliament can repeal”—the laws of nature and society. Cultivate your mind and your body, study general literature, and enjoy healthy sports and athletic exercises. You cannot have a perfectly healthy mind in an unhealthy body. Many a patient has been made worse by the gloomy forebodings of a dyspeptic doctor.

Allow me to read to you an extract from the Right Hon. R. L. Shiel's “Sketches,” to show you what the public feel with regard to general culture:—“Mr. Crampton is indeed one of the most accomplished men, in mind and manners, whom I have ever seen. Master of his profession, he has united with its study all the collateral branches that so intimately associate it with the investigation of our nature; his mind is admirably skilful and as full of resource as his hand is dexterous and rapid. With these acquirements he joins a passion for literature and the fine arts, which diffuse over his whole demeanour a peculiar softness and urbanity, and enable him, by his gentle and polished address, to assuage the pains of malady and to take from the instruments of his art one-half their ordinary torture.”\* “The main ingredients of that ability,” says Mr. Davison, “are requisite knowledge and cultivated faculties; but of the two the latter is the chief. A man of well improved faculties has the command of another's knowledge; a man without them has not the command of his own.” Do not despise the fine arts. If you have music in your soul, let it take its place in your education—or painting. At any rate have something to do to rest your mind. Sir William Fergusson played the violin well; Sir Philip Crampton was a good musician. I could name many others. Our profession has done something for music. Much more could be done. We have excellent professional music in Dublin, but, alas! how little is it encouraged. Our own Graves, whose writings have helped to make the Meath famous, was also an artist. The most pleasing passages in his *Life*, by Dr. Stokes, describe his tour in Italy, painting from nature with the great Turner. Sir Henry Thompson is, I believe, himself an artist, and by his love for pictures

\* *Sketches.* Right Hon. R. L. Shiel. Vol. II., p. 316.



gave his daughter the opportunity of giving to the world one of the best and most instructive guides to the picture galleries of Europe.

Athletic sports have a very important place in the education of the medical man. Whatever you do, do well and earnestly, but never permit play to take the place of work. This year we may well be proud of our Meath men. They have won the cup of the Football Union the first year it has been offered for competition, thus placing the Meath Hospital first on the list—the position in which every true Meath Hospital man will ever strive to place her.

The Meath first taught clinical medicine and surgery in Ireland. The stethoscope and laryngoscope were first used in its wards; anæsthetics were first used in Dublin in this theatre; and now we have won this beautiful cup. May the old Meath go on as she has done for these hundred and twenty-nine years—ever young, always striving to do better.

Ruskin says—"Cultivate your taste as well as work. Life without industry is guilt, and industry without art is brutality." Again he says:—"Almost the whole system and hope of modern life are founded on the notion that you may substitute mechanism for skill, photograph for picture, cast iron for sculpture. That is your main nineteenth century faith, or infidelity. You think you can get everything by grinding—music, literature and painting. You will find it grievously not so. You can get nothing but dust by mere grinding. Even to have barley-meal you must have the barley first, and that comes by growth, not grinding."

In conclusion, I would say a few words on manners. Begin at once, while you are students, to cultivate a kind and gentle manner to your patients. Always bear in mind that the patient comes to you to be relieved of suffering. Suffering is not a good preparation for a joke. At the same time if you can get your patient to laugh with you, you do him good. To laugh at him does him harm, and injures your own feeling. Cultivate that extra sense, as Ruskin calls it—tact. All women have it, more or less; some few men acquire it. How outraged one feels sometimes in the sick room by the thoughtless question—wounding as no knife can wound—the loud laugh, or creaking boot. The true physician must minister to the mind as well as to the disease of the body. You often have to give your patient "courage to get well." It is, therefore, necessary to think how to express your opinion as well as to give it—

"To say the right thing rightly."

The great Egyptian king, Snefru, who reigned at Memphis many centuries ago, had a dream that all his teeth fell out of his mouth. He sent for the revealer of dreams, who told him that all his friends and relations would die before him. The horrified Snefru had the prophet



of evil flogged, and sent him away. He then told his dream to another, who said, "Oh, great king, your dream signifies that your life will be so long and so prosperous that you will outlive all your relations and friends." The king smiled, and gave him great rewards.\* In adopting medicine as your profession you should always remember that you are walking in the steps of Him who went about doing good, healing the sick.

When you have finished your course, and the great Healer calls His healers home, may it be said to each and all of us—"Well done, good and faithful servant!"

#### SYMPATHETIC OPHTHALMIA FOLLOWING EXTRACTION OF CATARACT.

MR. W. J. MILLES, House Surgeon to the Royal London Ophthalmic Hospital, relates eleven cases of "undoubted sympathetic inflammation" following extraction of cataract, and due to that cause. He states that one of his "reasons for giving an account of these cases is that often more may be learned from the disasters than from the successes of surgery." "All the cases were fairly good subjects for operation; the cataracts were not complicated by any other disease of the eyes; the pupils were active, projection good, tension normal." The interval between the extraction and the onset of sympathetic ophthalmitis was, as a rule, two to three months. The shortest period was six weeks, the longest fifteen months. In the sympathising eyes the tension varied from time to time; one day it would be normal, another day increased, this variation in the degree of tension is, he believes, one of the characteristics of sympathetic inflammation.—*Royal London Ophthalmic Hospital Reports*, Aug., 1882.

#### THE INCUBATION PERIOD OF SYMPATHETIC OPHTHALMIA.

MR. ANDERSON CRITCHETT relates a case of sympathetic ophthalmia which occurred in the left eye of a man who had had his right eye enucleated fifteen days previously in consequence of a penetrating wound from a grain of shot, which had remained in the vitreous. The case is of interest as bearing upon the important question of the incubation period of sympathetic ophthalmitis, and the relative immunity which can be obtained by removal of the injured eye. The practical inference which he draws from a consideration of this and similar cases is that grave danger can result from even a short delay, and that an emphatic decision should, if possible, be at once arrived at as to the necessity which exists for removal of the injured organ, since it is evident from the present case that this peculiar form of sympathetic inflammation must have made an insidious commencement within fifteen days from the date of the accident.—*Royal London Ophthalmic Hospital Reports*, Aug., 1882.

\* Eine ägyptische Königstochter. Ebers. P. 112.

## CLINICAL RECORDS.

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THE BOSTON  
SOCIETY FOR  
MEDICAL  
OBSERVATION

*A Case of Tubal Pregnancy ; Early Rupture of the Sac, and Death.* By WILLIAM ALLAN, L.R.C.S.I. ; Assistant Colonial Surgeon ; Medical Officer to the Victoria Hospital, Bathurst, Gambia, West Africa ; Fellow of the Royal Colonial Institute.

T. C., aged twenty-one years, of fine physique, and in good health, complained of intermittent pains in the lower portion of the abdomen on the night of the 13th of October, 1882, these pains continuing at intervals on the 14th, accompanied by constant vomiting and intense thirst. Sudden death by syncope took place at mid-day of the 15th. No medical aid had been obtained during this time.

A suspicion prevailed amongst her friends that her death might have been the result of the administration of some noxious drug ; it was therefore considered advisable to have a *post mortem* examination of the body, which I accordingly performed on the morning of the 16th.

*Examination.*—Body externally well nourished, well formed, and free from all injuries. Marked pallor of the mucous membranes of vagina, eyelids, &c. On opening the abdomen three pints of dark fluid blood were found free in the cavity. Stomach and intestines were carefully removed ; the former contained a small quantity of oil (castor oil administered before death) and a large round worm (*ascaris lumbricoides*). The intestines were tympanitic, and the lower bowel contained some healthy faecal matter. No adhesions or inflammation present. In the pelvic cavity there was a large crassamentum two pounds in weight, and on removing it and searching for the origin of the hæmorrhage, I found the form of extra-uterine pregnancy known as the “tubal,” the sac being formed by the dilated and hypertrophied Fallopian tube. The sac thus constructed was small, dark in colour, and ruptured—an aperture existing in it about the size of a small pea. On laying open the sac foetal structures and a foetus of about the fortieth day were found. The ovaries were healthy ; the uterus slightly enlarged, and empty ; the remaining organs perfectly healthy. This woman had aborted a ten weeks’ foetus in July previous, and at the time of her death the menstrual flow had been absent one month, giving rise to a suspicion of pregnancy.

As regards treatment in these cases—“In so far as the early weeks are concerned, it is obvious that, accurate diagnosis being impossible, treatment can only be palliative, or directed against symptoms, the import of which we can only guess at.”—(Leishman). The same authority

recommends anodyne applications, opiate suppositories, strict rest in the recumbent posture. Cazeaux recommends, even in the early stages, bleeding to syncope, or the passage of electric shocks through the abdomen so as to destroy the life of the foetus. The difficulty is one of diagnosis. Deseimeris states the tubal form, as a rule, ruptures about the fourth month. In this case the rupture took place very early; about the fortieth day.

#### AN OPERATION FOR THE REOPENING OF THE OBSTRUCTED IRIS-ANGLE IN GLAUCOMA.

DR. KARL GROSSMANN, of Liverpool, has suggested, and practised with good results, a novel operation as a substitute for iridectomy or sclerotomy in glaucoma. He describes the operation, which he says is "easy and simple enough," as follows:—"With a paracentesis-needle, with *arrête*, I puncture the cornea about half way between the free margin of the iris and the limbus cornæ, i.e., about two millimetres from the latter. I choose the place for paracentesis in a quadrant adjacent to the one in which I want to do the reopening of the angle. After the escape of the aqueous humour I take a club-ended silver probe, which I have previously shaped at the end like a button hook, though not quite so much curved, pass it into the anterior chamber through the corneal wound, the convexity of the hook being directed towards the ciliary region, and try to push it gently, but decidedly, forward between the cornea and iris, as far and in as large a circumference as possible. With the hook I gently press the peripheral part of the iris back towards the lens, where a distinct resistance can be felt. This proceeding I repeat a few times, and having done so in one quadrant I turn the convexity of the probe round and go, if necessary, to another quadrant. Finally, I simply cover the eye with an occlusive bandage without applying a myotic." This operation he had done in three cases with results which he considered more favourable than those obtained from other methods. The amount of consequent inflammatory reaction was very slight, and not injurious.—*The Ophthalmic Review*, Oct., 1882.

#### ON THE MEANING OF THE WORDS NYCTALOPIA AND HEMERALOPIA.

MR. TWEEDY communicates to the *Royal London Ophthalmic Hospital Reports* a long and learned article, discussing, in all its bearings, this much-vexed question, and arrives at the conclusion, now generally accepted, that the true meaning of nyctalopia is night blindness (*ὁ τῆς νυκτὸς ἀλαός*), and, consequently, that the true meaning of hemeralopia is day blindness.

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, November 4, 1882.*

Towns	Population in 1881 (Unre- vised)	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES								DEATH-RATE per 1,000	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	Deaths from Phthisis	From all causes	From seven Zymotics
Dublin, -	848,293	739	599	129	149	-	-	2	-	9	15	20	63	22.4	1.8
Belfast, -	207,671	462	436	98	57	3	33	35	4	10	11	17	48	27.3	7.1
Cork, -	78,861	175	129	30	29	-	1	-	-	1	6	8	14	21.4	2.7
Limerick, -	38,600	72	77	19	23	-	-	2	-	-	-	4	6	25.9	2.0
Derry, -	28,947	50	47	4	9	-	-	1	1	-	-	-	2	21.1	0.9
Waterford, -	22,401	47	33	8	8	-	-	-	-	-	3	-	7	19.2	1.7
Newry, -	14,782	22	21	5	3	-	-	3	-	-	-	1	2	18.5	3.5
Galway, -	14,621	26	28	7	12	-	-	-	-	-	1	-	2	24.9	0.9

### Remarks.

In most of the towns the death-rate was moderate or low—the exceptions being Belfast, where very serious epidemics of scarlet fever and measles are raging; Limerick, and Galway. The registered deaths give a rate of 21.2 per 1,000 of the population annually in twenty-eight large English towns (including London, in which it was 20.0); 23.2 in the sixteen principal town districts of Ireland; 18.4 in Edinburgh, and 24.3 in Glasgow. If the deaths of persons admitted into public institutions from localities outside the registration district of Dublin are deducted, the rate of mortality of the district falls from 22.4 per 1,000 to 21.9, and that of the portion of the district comprised within the municipal boundary of the City of Dublin becomes 25.1.

The mortality caused by the seven principal zymotic diseases ranged from 7.1 per 1,000 per annum in Belfast and 3.5 in Newry to 0.9 in Derry and Galway. In Dublin it was 1.8.

In the Metropolitan Registration District 599 deaths were rec-

against 637, 659, and 595 in the three previous periods. Of these 129 were of children under one year of age, and 149 were of persons aged 60 years or upwards. The mortality among infants again shows a marked decline—the deaths falling short of those registered in the preceding four weeks by 23. This favourable result depended on a further decline of diarrhoeal diseases and on a moderate prevalence of epidemic affections generally. In Dublin zymotics caused only 57 deaths, compared with an average of 133·6 in the corresponding period of the previous ten years, and with 95 in the preceding four weeks. With the exception of “fever,” all the principal zymotics show a decided falling off in fatality. Thus, there were no deaths from smallpox, measles, and diphtheria; scarlet fever proved mortal in only two instances, and the diarrhoea deaths fell from 42 to 20. Of the fifteen deaths referred to fever, 6 were ascribed to typhus, 9 to enteric fever, and one to continued fever of undetermined type.

In marked contrast to Dublin is the present condition of Belfast, where among 436 deaths registered, no less than 113, or 25·9 per cent., were attributed to seven principal zymotic diseases. Scarlet fever (35 deaths) and measles (33 deaths) were the most destructive to life, while the diarrhoeal group numbered 17 victims, fever 11, whooping-cough 10, diphtheria 4, and smallpox 3. The fatality from zymotics in the remaining towns was moderate or low, and calls for no special remark. It may be mentioned that diarrhoeal affections caused 50 deaths in the eight largest towns, compared with 98 and 127 deaths respectively in the two previous periods.

The mortality from pulmonary consumption was much less in Dublin than before—the deaths were 63 against 91 in the four weeks ending October 7. In Belfast, on the other hand, the deaths rose from 40 to 48.

In Dublin, diseases of the organs of respiration terminated fatally in 121 cases, against a ten years' average of 119·5. Bronchitis contributed 79 deaths (average = 80·4) and pneumonia 23 (average = 18·3). The increased prevalence and fatality of pneumonia during the past eight weeks coincident with the autumnal epidemic of enteric fever is worthy of note.

On Saturday, November 4, the number of cases of the most important epidemic diseases under treatment in the principal hospitals of Dublin were—smallpox, 0; measles, 1; scarlet fever, 26; typhus, 56; typhoid, 15; and pneumonia, 8. During the past four weeks a child supposed to be suffering from variola discreta was treated in an isolated ward in Cork-street Hospital, Dublin.

The mean temperature of the four weeks was 48·5° in Dublin, 49·4° at Greenwich, and 47·0° in Edinburgh.

## METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,  
for the Month of October, 1882.*

Mean Height of Barometer,	-	-	-	29·806 inches.
Maximal Height of Barometer (on 4th at 9 p.m.),	-	-	-	30·657 „
Minimal Height of Barometer (on 22nd at 8 a.m.),	-	-	-	29·210 „
Mean Dry-bulb Temperature,	-	-	-	49·8°.
Mean Wet-bulb Temperature,	-	-	-	47·9°.
Mean Dew-point Temperature,	-	-	-	45·9°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·310 inch.
Mean Humidity,	-	-	-	86·9 per cent.
Highest Temperature in Shade (on 1st),	-	-	-	65·4°.
Lowest Temperature in Shade (on 26th),	-	-	-	32·2°.
Lowest Temperature on Grass (Radiation) (on 26th),	-	-	-	27·6°.
Mean Amount of Cloud,	-	-	-	55·2 per cent.
Rainfall (on 20 days),	-	-	-	2·804 inches.
Greatest Daily Rainfall (on 26th),	-	-	-	·544 inch.
General Directions of Wind,	-	-	-	W.S.W., N.E., S.E.

*Remarks.*

The weather was throughout changeable and unsettled—in England to even a greater extent than in Ireland. The usual periodic rains of October fell all over Western Europe, being exceptionally severe in France and England. Near Dublin the month was one of average mean temperature, the rainfall (2·804 inches) being below the average (3·215 inches) of the previous seventeen years, while the number of rainy days (30) was above the average (17·3)—in fact, Dublin remarkably escaped the torrential rains which were so characteristic of the month.

On Sunday, the 1st, a violent southerly gale swept over Ireland—the storm almost reaching the force of a hurricane in the western counties from Kerry to Donegal. At 8 p.m. of the 2nd a magnificent display of aurora borealis became visible, lasting for an hour. Brilliant streamers shot towards the zenith at 8 45 p.m. On the 3rd and 4th an anti-cyclone, in which the readings of the barometer ultimately exceeded 30·60 inches, spread over the United Kingdom from S.W., causing a temporary improvement.

Soon, however, atmospherical depressions appeared in the S. and S.W., while the barometer rose and remained high in Scandinavia. The result was stormy, rainy weather, particularly along the eastern coasts of England and Scotland, while in Ireland it was changeable and often damp and foggy. On the morning of the 8th a thunderstorm, with heavy rain, passed near Dublin. At 4 30 a.m. next day the

crescent moon and the comet were well seen to E.S.E. Towards night-fall a dense vapour fog came down upon the city and suburbs. From the 12th to the 23rd the barometer was persistently high in Lapland, while numerous depressions crossed the British Isles and France—at first from N.W. to S.E., afterwards from S.W. to N.E. On the 18th two inches of rain fell over Munster in connexion with one of these depressions. From the 23rd to the 26th the weather was frosty by night in Ireland, the first decided frost of the season occurring on the night of the 25th, when the thermometer fell to 29° at Parsonstown, and to 32° in Dublin. At 11 p.m. of the 26th a downpour of rain and large hailstones in this city was followed by a sharp thunderstorm with vivid lightning and loud thunder. Next day a very deep depression appeared over Brittany, causing a renewal of broken weather and strong easterly gales in England. In Ireland the weather remained comparatively fine with the exception of occasional showers. In London rain fell on 26 days during the month to the amount of 5·71 inches—the rainfall was, therefore, more than twice as great as that in Dublin.

Thunderstorms occurred on the 8th, 26th, and 27th. Solar halos were seen on the 16th, 29th, and 31st. Aurora were observed on the 2nd and 5th. Hail fell on the 26th. The atmosphere was foggy on the 7th, 9th, 10th, 13th, 14th, 16th, 25th, and 26th.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### LUPUS.

THE following conclusions are given by Dr. Raudniz (*Vierteljahresschrift für Derm. und Syph.*, ix. Jahrgang, Heft I, p. 81), as the result of the statistical examination of two hundred and nine cases of lupus. Neither anatomically nor clinically can a difference between scrofulous and idiopathic lupus be made out, the disease appearing in the same form in already scrofulous and in entirely healthy individuals. A combination with inherited tuberculosis is only discernible in from ten to fifteen per cent. of all cases. The abscesses of the lymphatic glands, so frequently met with in scrofula, are almost never found in lupus. A contemporaneous manifestation of lupus in blood relations is seen only in the rarest instances, and hereditary transmission of lupus from parents to children perhaps never takes place. The infrequency of association between lupus and pulmonary tuberculosis decidedly speaks against the identity of these affections. On the other hand, the facts that in at least thirty per cent. of the cases observed, lupus was developed upon  
 only in the neighbourhood of cicatrices due to scrofulous disease, or



upon mucous membranes already changed by catarrhal processes; that in twelve cases injury, and in eight cases local attacks of erysipelas were given as exciting causes of the disease, would indicate that lupus is often due to a localised specific predisposition, the nature of which is entirely hypothetical. The small proportion of cases, seventeen in number, in which lupus was found in combination with often trivial affections of the skin, contradicts the assumption that in lupus we have to do with a generalised predisposition of the skin to pathological changes.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

#### CLINICAL OBSERVATIONS ON ALBUMINURIA.

DR. A. V. MEIGS read a paper recently at the College of Physicians, Philadelphia, based upon the study of sixty-two cases of albuminuria seen during the last eight or nine years in private practice. The following is the recapitulation of the points the paper endeavours to prove:—1st. That in no ordinary, uncomplicated case of Bright's disease, should a prognosis of speedy death, or even of incurable disease, be given, for the author has related cases in which the disease was chronic, lasting more than two years, and which ended in complete recovery, and others, in which the person affected has lived nearly nine years. 2nd. That dyspnoea, usually taking the form of renal asthma, is much more common than is usually supposed, and, when properly appreciated, is a valuable diagnostic sign of the disease; also that severe coryza is a complication or accompaniment, and has a diagnostic value. 3rd. That Bright's disease, as a cause of death, is on the increase. 4th. That it is a very common cause of the deaths of old people, probably being the direct cause in many deaths reported as of old age. 5th. That the passage of gravel, even when microscopic in size, but particularly if large enough to cause nephritic colic, is a prolific cause of the disease. 6th. That the occurrence of tube-casts in the urine, without, or in advance of, the presence of albumen, is very common, and *vice versa*, persons may die of Bright's disease, and the most careful examination fail to show any tube-casts, although there may be albumen constantly present in the urine. 7th. That the abuse of alcohol is certainly a cause of kidney disease.—*Med. News*, Oct. 21.

#### ON A PECULIAR REDUCING SUBSTANCE IN THE URINE FROM THE INTERNAL EMPLOYMENT OF TURPENTINE.

FROM the researches of M. Vetlesen in the Physiological Institute of Christiania, published in the *Nordiskt medicinskt Arkiv* for 1882, it appears that during the internal employment of turpentine the urine contains a rather large quantity of a reducing substance, which in its reactions (such as blackening, on boiling, an alkaline solution of oxide of bismuth, and reducing the peroxide of copper to the suboxide) seems to be composed in

great part of a matter strongly resembling grape-sugar, without, however, being in any way identical with it. The author, in fact, has never succeeded with the polarising apparatus in observing the rotation to the right side. The reaction disappears after fermentation, which process appears to act more slowly. Experiments subsequently showed that a small quantity of hydrochloric acid destroyed this reducing substance even at a relatively low temperature, while under the same circumstances it was proved that grape-sugar is only slightly destroyed. The reducing substance described by M. Vetlesen is in all probability optically indifferent, as it disappears by fermentation with rather more difficulty than grape-sugar; but as it does so when the urine is simply left to rest for about five days, it might perhaps be supposed that it is not a fermentable body. But M. Otto has traced in one experiment, and after fermentation, some alcohol in the distilled product, while before fermentation the urine gave only a negative result. It may be admitted as the result of the experiment that the substance appearing in the urine during the internal use of turpentine is a kind of fermentable sugar, the nature of which, however, is not yet specially determined. The researches made appear to show that the quantity of this reducing substance is in relation to the amount of the dose of turpentine, and that it diminishes if the use of this drug be continued for a certain time.—*Med. Times and Gaz.*, Sept. 16th, 1882. [In connexion with the subject of reducing substances in the urine, compare Dr. Walter Smith's paper "On the occurrence of Protocatechuic Acid in Urine," in the June number of this Journal.—ED., PERISCOPE.]

## NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

### *A Decided Improvement in Medical Thermometers.*

MR. S. G. DENTON, F.M.S., 25A Hatton Garden, London, has just exhibited at the Meteorological Society, forty-six newly-made mercurial thermometers, constructed in a special manner, the zero of which has remained constant for over twelve months. The thermometers comprised twenty-three standards and twenty-three clinicals. To prove that they were newly-made, the pieces of enamel stems were sent to the Kew Observatory, and Hall marked, previously to having their bulbs blown. They were then constructed into thermometers, graduated, and returned to the Observatory, and tested throughout. They were then placed under seal by the superintendent, and remained so for over twelve months, and then again re-tested, the mean amount of change being only about half a tenth of a degree Fahr. A standard thermometer, made by the same process as above, was also shown, it being verified in 1873 and in 1882, the zero being still constant.

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